OAKTON®
INSTRUMENTS

...setting the standard again and again®

ELECTROCHEMISTRY CATALOG

pH/ORP
ION CONCENTRATION
CONDUCTIVITY/TDS
DISSOLVED OXYGEN
MULTIPARAMETER
OPTICAL
TURBIDITY
COLORIMETRY

OAKTON® INSTRUMENTS

Dear Valued Customers and Marketing Partners:

Welcome to the 2007 Oakton Instruments Electrochemistry Catalog.

For over 16 years, Oakton Instruments has set the standard for innovation and quality in electrochemical instrumentation. From our introduction in 1991 of the world's first microprocessor-based, pocket-sized pH meter, to our new, powerful 600-Series line of multiparameter meters, Oakton has met or exceeded user expectations. Oakton remains in the forefront with technological breakthroughs like the double-junction electrode available on all pHTestrs®, as well as with design innovations that permit intuitive, user-friendly operation and allow handheld instruments to easily fit in your hand.

While extending our range of offerings, Oakton continues the tradition of providing a broad selection of easy-to-use products with outstanding value. All Oakton meters are designed and manufactured at an ISO 9001 facility, and meet CE requirements for EMF. Our commitment to deliver accuracy, quality, and reliability at a competitive price makes Oakton a leader in our field.

If you like what you see in this catalog, be sure to visit our Web site at **www.4oakton.com**, where you'll find Oakton Instruments' complete selection of products, and where you can request additional Oakton catalogs. These include the 2007 Oakton Instruments Temperature and Humidity Catalog, featuring thermometers, probes, and controllers for thermocouple, RTD, and thermistor measurement, and the Eutech Instruments Product Guide, featuring on-line controllers and transmitters for pH, ORP, conductivity, resistivity, TDS, and dissolved oxygen. All items contained in these catalogs are manufactured with the same commitment to the customer found in each Oakton instrument.

Sincerely,

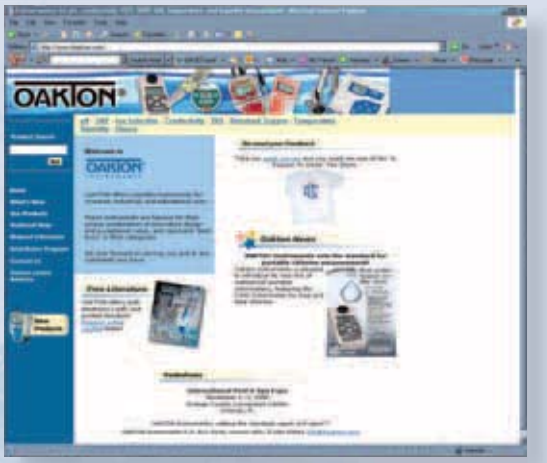
The Oakton Instruments Team

...setting the standard again and again®

Visit us online: www.4oakton.com

Log on to the Oakton Instruments Web site for product pricing, technical data, and customer assistance:

- **Access** detailed information on new Oakton products as soon as they become available
- **Download** product manuals and product specifications for every Oakton instrument
- **Search** our technical library for application tips based on our most frequently asked questions
- **Navigate** quickly to the information you need with our newly enhanced Search function
- **Find e-mail links** to the Oakton team for fast technical assistance
- **Access MSDS sheets** for Oakton solutions



http://www.novatech-usa.com/Products/Laboratory-Equipment-Supply-Products

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pH Measurement

What is pH Measurement? The most commonly measured chemical parameter in aqueous solutions, pH is a measure of a liquid's acidity and alkalinity. It is a critical parameter in water and wastewater treatment in municipal and industrial applications, chemical production, agriculture research, and production. It is also critical in environmental monitoring, chemical and life sciences research, biochemical and pharmaceutical research, electronics production, and many more applications.

Meter Selection. Oakton offers a large selection of pH measurement instruments and kits. From pocket-sized pHTestrs®, to rugged handheld meters, to laboratory benchtop meters, Oakton has an instrument for practically any pH application.

Electrode Selection. Proper pH electrode selection is important to maximize electrode life and ensure the best possible accuracy for your application. Oakton offers a complete selection guide with applications and specifications for pH range, temperature, and diameter for each electrode (see pages 28–33).

Calibration Buffers. All pH measurement requires calibration solutions to ensure that the readings are traceable to a standard. Oakton calibration buffers do this—and more—since they are standardized against NIST-certified references. Always choose a pH 7 buffer plus at least one other pH value close to your expected measurement range. Storage and cleaning solutions should also be used to ensure fast, reliable results from your electrodes.

Expert Advice to Ensure the Best Results. Feel free to contact an Oakton distributor to help you choose your Oakton pH measurement products. Oakton distributors are dedicated to helping you purchase the Oakton instrument that will give you the best results.

Waterproof pHTestrs® and ORPTestrs® Selection Guide

Use this chart to find the best Testr for your application

Meter	pHTestr Basic	pHTestrs 10, 20, 30	pHTestr 10 BNC	pH Spear	ORPTestr 10	ORPTestr 10 BNC
Page	5	4	7	6	8	8
Parameters	pH	pH and temperature	pH	pH	ORP	ORP
Electrode	Single-junction module	Double-junction module	Not included—use any electrode with BNC connector	Double-junction spear-tip probe	Double-junction ORP module	Not included—use any electrode with BNC connector
Resolution	Up to 0.01	0.1	Up to 0.01	Up to 0.01	1 mV	1 mV
Accuracy	Up to ±0.01	±0.1	Up to ±0.01	Up to ±0.01	±2 mV	±2 mV
Display	One-line LCD	Two-line LCD	Two-line LCD	Two-line LCD	Two-line LCD	Two-line LCD
Calibration	3 points; US buffers	3 points; US or NIST buffers	3 points; US or NIST buffers	3 points; US or NIST buffers	±150 mV offset	±150 mV offset

It's **what's inside** that makes them **better**

Main Features

- User-replaceable sensor
- Valox® durable plastic casing
- IP67 waterproof
- Easy to use
- Quick, stable, and accurate results
- 1-year meter warranty; 6-month electrode warranty

Battery Compartment
- Waterproof by silicone O-ring
- Uses common button cells
- Encloses calibration buttons (for EC/TDS models)

Customized LCD
- Clear display with unit of measurement
- Self-diagnostic messages
- Temperature readout (selected models)

Waterproof to IP67 Standard
- Rugged, waterproof, and so light, it floats!
- Unique anti-roll ribbed design ensures firm grip

User-Replaceable Sensor Module
- Use tester body over and over again
- Easy plug in / plug out connection
- Electrode modules for pH, EC/TDS, and ORP

Top Battery Cover
- Easy to remove (no wires attached)
- Eyelet for lanyard attachment

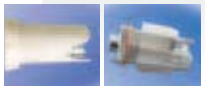
Strong Plastic Housing
- Chemical resistant
- Physical durability

ASIC Microprocessor
- Precise and accurate calibrations
- Fast and reliable readings
- Sophisticated features

Push-Button Operations
- Simple, quick and accurate
- Hassle-free calibration procedures

Double Silicone O-Ring
- Waterproof by silicone O-ring
- Allows easy replacement of electrode module

Protective Cap
- Reduces contamination
- Protects sensor



pH/ORP Sensor Module
- Glass bulb of special material; tough with fast response
- Kynar® reference junction minimizes contamination
- Double-junction
- Valox® plastic for improved chemical and physical durability

EC/TDS Sensor Module
- Two-pin stainless steel
- Minimal bubble entrapment
- Easy to clean

EC/TDS+ Series Sensor Module
- Cup-type design for scooping samples
- Requires minimal sample volume

pHTestrs® 10, 20, and 30

The world's best pHTestr® now offers a larger display, with more information to make measurement easier

Unique double junction electrode design and increased reference gel volume

▼ For significantly longer electrode life, especially in harsh applications

Waterproof, dustproof housing

▼ IP67 rated, maintains the integrity of your tester even in dirty or damp field conditions. Plus, it floats!

Replaceable electrode

▼ Reuse the same meter body

Push-button calibration with auto-buffer recognition

Automatic temperature compensation, self-diagnostic error messages, Hold function, Auto-off function

Waterproof housing is great for outdoor measurements

▼ Compact size makes it easy to take these Testrs anywhere. Double junction electrode will keep working even where pollutants cause problems for other meters.

pHTestr 10 features:

▼ Three-point calibration, ±0.1 pH accuracy

pHTestr 20 features:

▼ Three-point calibration, ±0.01 pH accuracy

pHTestr 30 features:

▼ Three-point calibration, ±0.01 pH accuracy, and simultaneous temperature display

Waterproof double-junction pHTestr 30 35634-30

Large LCD display

Optional calibration kit

Replaceable electrode—save money!

All Oakton® waterproof pHTestrs float!

Specifications

ISO9001:2000 CERTIFIED SUPPLIER CE 1 year warranty

Mode	pHTestr 10	pHTestr 20	pHTestr 30
Range	–1.0 to 15.0 pH	–1.00 to 15.00 pH	–1.00 to 15.00 pH
Resolution	0.1 pH	0.01 pH	0.01 pH
Accuracy	±0.1 pH	±0.01 pH	±0.01 pH
Temperature display	—	—	0 to 50°C (32 to 122°F)
Calibration	Three point at either pH 4.0, 6.86/7.0, or 9.18/10.0		

Temperature compensation: automatic (ATC), from 0 to 50°C (32 to 122°F)
Operating temperature: 0 to 50°C (32 to 122°F)
Special functions: On/Off or Auto-Off after 8.5 minutes; Hold; Calibrate and Confirm
Power: four 1.5 V alkaline batteries (included), >500 hours continuous use; Eveready A761 LR44 equivalent replacement

Dimensions
Unit only: 6.5" x 1.5" dia (16.5 x 3.8 cm)
Boxed: 7.25" x 2.5" x 2" (18.4 x 6.4 x 5.0 cm)
Weight
Unit only: 3.25 oz (90 g); Boxed: 4.5 oz (125 g)

Applications

Industrial: Double-junction electrode makes these pHTestrs the best choice for chemical applications; plating baths even when heavy metals are present; wastewater where sulfides or organics will destroy an ordinary pH electrode; and process streams where mercury, copper, lead, or silver may be present.
Laboratory: Ideal for lab measurements where solvents, chemicals, or biological materials make ordinary testers or electrodes impractical. Can be used with Tris buffers.
Food: Measure pH of food, beer, wine, milk, cleaning water, rinse water, and wastewater.

A wide range of accessories for your pHTestr, including buffer solutions, are available. See page 9 to order.

Ordering Information

Catalog number	Description	Included
WD-35634-10	pH Testr 10	Tester, detachable electrode sensor, and batteries
WD-35634-20	pH Testr 20	Tester, detachable electrode sensor, and batteries
WD-35634-30	pH Testr 30	Tester, electrode, detachable electrode sensors, calibration pouches, and batteries

WD-35624-38 Replacement electrode sensor for pHTestr 10, 20, and 30
WD-35634-70 pHTestr 10 calibration kit includes Testr, "Singles" calibration pouches (two each of pH 4.01, 7.00, 10.00 and rinse water), sample jar, and sturdy carrying case
WD-35634-80 pHTestr 20 calibration kit includes Testr,"Singles" calibration pouches (two each of pH 4.01, 7.00, 10.00 and rinse water), sample jar, and sturdy carrying case
WD-35634-90 pHTestr 30 calibration kit includes Testr,"Singles" calibration pouches (two each of pH 4.01, 7.00, 10.00 and rinse water), sample jar, and sturdy carrying case

pHTestr® Basic

Waterproof and dustproof tester has a replaceable electrode…and it floats!

Waterproof, dustproof housing

▼ IP67 rated, maintains the integrity of your tester even in dirty or damp field conditions. Plus, there's no need to worry if you drop your tester into water—it floats!

Replaceable electrode

▼ Reuse the same meter body

Economical and easy to use

Push-button calibration with auto-buffer recognition

Self-diagnostic error messages, Hold function, Auto-off function

pHTestr Basic features:

▼ One-point calibration
±0.2 pH accuracy

Waterproof pHTestr 1

Optional calibration kit available

Replaceable electrode saves money

All Oakton® waterproof pHTestrs float!

Optional soft carrying case

Applications

General: Ideal for quick and accurate pH checks in pools and spas, aquariums and hydroponics operations, or anywhere frequent pH testing is required.

Industrial: Use for cooling towers, food processing water testing and process/wastewater testing in metal finishing, photo development, printing, and chemical industries.

Educational: Useful in schools, many lab applications, and ecology studies.

Specifications

ISO 9001:2000 CERTIFIED SUPPLIER · CE · 1 year warranty

Mode	pHTestr Basic
Range	–1.0 to 15.0 pH extended range
Resolution	0.1 pH
Accuracy	±0.2 pH
Calibration	One point at either pH 4.0, 7.0, or 10.0

Temperature compensation: none
Operating temperature: 0 to 50°C (32 to 122°F)
Special functions: On/Off or Auto-Off after 8.5 minutes; Hold; Calibrate and Confirm
Power: four 1.5 V alkaline batteries (included), >250 hours continuous use; Eveready A761 LR44 equivalent replacement

Dimensions
Unit only: 5.875"L x 1.5"W x 0.75"H (15 x 4 x 2.5 cm)
Boxed: 7.75"L x 2.75"W x 1.875"H (18.4 x 7 x 4.8 cm)
Weight
Unit only: 3.25 oz (90 g); Boxed: 6 oz (170 g)

Build your Own Tester Kit!

Easily mix and match Testrs, electrodes, and replacement components to get the exact kit that you need. Choose one or two Testrs, one or two replacement electrodes, buffer and rinse water pouches, and accessories. See page 9 to order.

Ordering Information

Catalog number	Description	Included
WD-35634-00	pH Testr Basic	Tester, detachable electrode sensors, and batteries

WD-35624-09 Replacement electrode sensor for pHTestr Basic

WD-35624-70 Calibration kit includes "Singles" calibration pouches (two each of pH 4.01, 7.00, 10.00, and rinse water), sample jar, and hard carrying case. (Tester not included)

WD-09377-16 Replacement batteries, 1.5 V. Pack of 6

WD-35624-45 Soft carrying case with belt loop; stores and protects your pHTestr

pH Spear

Great for food applications!

Rugged spear tip electrode
▼ Easily penetrates soft solids and semisolids

±0.01 pH accuracy with push-button three-point calibration
▼ Calibrate at 4.01, 7.00, and 10.00. Tester automatically provides offset and two slope adjustments

Unique open-pore double junction electrode design
▼ Resists clogging and contamination

Waterproof, dustproof housing
▼ IP67 rated, maintains the integrity of your tester even in dirty or damp field conditions. Plus, there's no need to worry if you drop your tester into water—it floats!

Replaceable electrode
▼ Reuse the same meter body

Error messages, Hold function, Auto-off

Waterproof housing is great for outdoor measurements
▼ Compact size makes it easy to take this Testr anywhere. Double junction electrode will keep working even where pollutants cause problems for other meters.

Waterproof pH Spear

pH Spear is perfect for a variety of food applications.

Spear tip electrode easily penetrates soft solids and semisolids

Specifications

ISO9001:2000 CERTIFIED SUPPLIER CE 1 year warranty

Mode	pH Spear
Range	–1.00 to 15.00 pH
Resolution	0.01 pH
Accuracy	±0.01 pH at normal room temperature; ±0.05 pH at extremes in temperature range
Calibration	Select up to three points (USA: 4.01; 7.00; 10.00 or NIST: 4.01; 6.86; 9.18)

Temperature compensation: none
Operating temperature: 0 to 50°C (32 to 122°F)
Special functions: On/Off or Auto-Off after 8.5 minutes; Hold; Calibrate and Confirm
Power: four 1.5 V alkaline batteries (included), approximately 500 hours use; Eveready A761 LR44 equivalent replacement

Dimensions
Unit only: 6.5" x 1.5" dia (16.5 x 3.8 cm)
Boxed: 7.25" x 2.75" x 1.875" (18.4 x 7 x 4.8 cm)

Weight
Unit only: 3.25 oz (90 g); Boxed: 6.0 oz (170 g)

Applications

Food: Open-pore sensor enclosed in a resilient engineered plastic body makes it ideal for piercing solid or semisolid food samples such as cheese, meats, ice cream, salami, bread, fruits, and similar samples.

Food Safety!

For our complete line of Oakton® food safety IR thermometers, please see our **Oakton Temperature and Humidity Catalog** or go to www.4oakton.com for details.

Ordering Information

Catalog number	Description	Included
WD-35634-40	pH Spear	Tester, spear tip electrode, and batteries

WD-35634-50 Replacement electrode for pH Spear
WD-35624-70 Calibration kit includes "Singles" calibration pouches (two each of pH 4.01, 7.00, 10.00, and rinse water), sample jar, and hard carrying case. (Tester not included)
WD-09377-16 Replacement batteries, 1.5 V. Pack of 6

Build your Own Tester Kit!

Easily mix and match Testrs, electrodes, and replacement components to get the exact kit you need. Choose one or two Testrs, one or two replacement electrodes, buffer and rinse water pouches, and accessories. See page 9 to order.

pHTestr® 10 BNC

Waterproof, dustproof tester connects to any pH electrode with BNC connector

Waterproof, dustproof housing
▼ IP67-rated housing, maintains the integrity of your tester even in harsh field conditions

Connects to any electrode with BNC connector
▼ Use tester in virtually any application, even highly specialized ones

Microprocessor-based functions
▼ For fast, stable readings

Push-button calibration with auto-buffer recognition; three-point calibration
▼ At pH 4.01, 7.00, and 10.00

±0.01 pH accuracy
▼ Performs like an advanced handheld meter with pocket-sized convenience

Hold function; Auto-off function; Error messages

Use with direct connect or cabled electrodes

IP67-rated waterproof, dustproof housing floats. Shown with direct current electrode

Tactile button keypad with positive "clicks" confirming your button selection

pHTestr 10 BNC

BNC connection lets you connect a wide variety of electrodes

A wide range of accessories for your pHTestr BNC, including calibration solutions, are available. See page 9 to order.

Customize your electrode to virtually any application with the pHTestr 10 BNC. This tester connects to any electrode with a BNC connector. The IP67-rated waterproof, dustproof housing protects tester from rugged field or plant environments. It floats, so you won't lose your tester by dropping it into a tank or pond.

This tester features all push-button operation and a splash-resistant membrane keypad. Lanyard loop allows you to attach cord. Thermoplastic body offers good chemical compatibility and durability.

Applications

General: Ideal for quick and easy pH checks in most applications, including aquariums, food processing, laboratory photographic development, printing processes, hydroponics, and pool/spa water analysis. Ideal for highly specialized applications that require specially shaped electrodes—like spear tipped, flat tipped, or special diameter models.

Industrial: Great for wastewater treatment checks, water conditioning plants, coolant testing, cooling towers and plating/finishing operations, plus many other chemical process applications. Use long cabled electrodes to get into hard-to-reach places, or for checking readings from pH electrodes submersed in tanks or pipelines.

Educational: Ideal for all levels of education. Use a small-diameter electrode that fits in test tubes.

ISO9001:2000 CERTIFIED SUPPLIER CE 1 year warranty

Specifications

Mode	pHTestr 10 BNC
Range	–1.00 to 15.00 pH
Resolution	0.01 pH
Accuracy	±0.01 pH (meter only, or when calibration and tests are at room temperature (62 to 81°F)
Calibration	Select up to three points (USA: 4.01; 7.00; 10.00 or NIST: 4.01; 6.86; 9.18)

Temperature compensation: none
Operating temperature: 0 to 50°C (32 to 122°F)
Special functions: On/Off or Auto-Off after 8.5 minutes; Hold; Calibrate and Confirm
Power: four 1.5 V alkaline batteries (included), approximately 250 hours continuous use; Eveready A761 LR44 equivalent replacement

Dimensions
Unit: 5.875"L x 1.5"W x .75"H (15 x 4 x 2.5 cm)
Boxed: 7.75"L x 2.75"W x 1.875"H (18.4 x 7 x 4.8 cm)
Weight
Unit: 3.25 oz (90 g); Boxed: 6 oz (170 g)

Ordering Information

Catalog number	Description	Included
WD-35634-14	pHTestr 10 BNC	Tester and batteries (Order BNC electrode separately below)

WD-35624-70 Calibration kit includes "Singles" calibration pouches (two each of pH 4.01, 7.00, 10.00, and rinse water), sample jar, and hard carrying case. (Tester not included)

WD-09377-16 Replacement batteries, 1.5 V. Pack of 6

pH Electrodes

These cable-free electrodes plug directly into tester for easy one-handed operation. Use single-junction electrodes for clean water applications. Use double-junction electrodes for solutions with organics, sulfides, heavy metals, or high pH. All electrodes feature sealed, epoxy-body construction and BNC connector. For a wider selection of pH electrodes, including electrodes with cables, see pages 25–31.

Catalog number	Description	pH range	Junction	Applications
WD-35804-00	12 mm dia	0 to 12	Single	Clean water, low ionic strength solutions.
WD-35804-10	Flat surface; 12 mm dia	0 to 12	Single	For surface testing such as gels, food, skin, floors, concrete. For small-liquid volumes.
WD-35804-09	Calomel reference; 12 mm dia	0 to 12	Single	Life sciences, Tris buffers, and dirty water.
WD-35804-08	12 mm dia	0 to 14	Double	Dirty water, high-strength solutions, has low-sodium error above pH 12.
WD-35804-02	12 mm dia	0 to 12	Double	Dirty water, high-strength solutions.
WD-35804-03	9 mm dia	0 to 12	Double	Small diameter fits test tubes. Dirty water, high-strength solutions.

ORPTestr® 10 and ORPTestr® 10 BNC

Waterproof, dustproof tester for convenient testing of oxidation-reduction (REDOX) potential

Waterproof, dustproof housing
- IP67-rated housing protects your tester even in harsh field conditions

Double-junction electrode design
- For significantly longer electrode life, especially in applications with harsh chemicals (ORPTestr 10 only)

Microprocessor-based functions
- For fast, stable readings

Offset of ±150 mV
- Keypad adjustment to calibration solution or to an established work standard

Replaceable electrode
- Reuse the same tester body over and over

Hold function, Auto-off function, error messages

New

IP67-rated waterproof, dustproof housing floats!

Electrode sensors are easily replaceable without affecting waterproof rating

Lanyard loop on top of battery cap lets you attach a cord to prevent tester loss.
Tactile button keypad with positive "clicks" confirming your button selection
Double-junction electrode allows for long electrode life, even in harsh applications
WATERPROOF
250
mV
ORPTestr 10
DOUBLE JUNCTION

35650-10

35650-14

ISO9001:2000 CERTIFIED SUPPLIER

CE 1 year warranty meter only

The microprocessor-based Oakton® ORPTestrs are ideal for oxidation-reduction tests. These pocket-sized instruments are reliable over their wide –999 to +1000 mV range. The IP67-rated waterproof, dustproof housing protects your instrument from rugged field or plant environments. And it floats, so you won't lose your tester by dropping it into a tank or pond!

The waterproof ORPTestrs feature microprocessor-based, all push-button operation. All functions are accessible from the keypad. Features include Hold function, Auto-off, and error messages.

Lanyard loop lets you attach a cord. Thermoplastic body offers good chemical compatibility and durability. The rugged thermoplastic body, and platinum, glass and Kynar® reference junction offer good chemical compatibility and durability. Screw cap battery compartment with tight seal ensures waterproof and dustproof protection.

Applications

General: Ideal for ORP applications, which are typically found in the –999 to +1000 mV span.

Industrial: Chromate reduction (+200 mV approx); Cyanide oxidation (+300 mV approx); Pulp bleaching (+900 mV approx)

Water treatment: Monitor ozone systems (+900 mV); Check free chlorine activity (+600 mV) in pools, spas, and cooling towers; Water purification and drinking water (+300 mV); Aquarium monitoring; Water pollution monitoring.

Specifications

Mode	ORPTestr
Range	–999 to +1000 mV
Resolution	1 mV
Accuracy	±2 mV
Calibration	Offset adjustment ±150 mV; brings ORPTestr into agreement with your work standard

Operating temperature: 0 to 50°C (32 to 122°F)
Special functions: On/Off or Auto-Off after 8.5 minutes; Hold; Calibrate and Confirm
Power: four 1.5 V alkaline batteries (included). Eveready® A761 or LR44 equivalent replacement

Dimensions
Meter: 6.5"L x 1.5"dia (16.5 x 3.8 cm)
Boxed: 7.25"L x 2.75"W x 1.875"H (18.4 x 7 x 4.8 cm)
Weight
Meter: 3.25 oz (90 g); Boxed: 6 oz (170 g)

Ordering Information

Catalog number	Description	Included
WD-35650-10	ORPTestr 10	Tester with double-junction electrode module and batteries
WD-35650-14	ORPTestr 10 BNC	Tester with BNC connection and batteries (electrode not included)

Accessories

WD-35624-45 Belt-loop waterproof carrying case; holds one waterproof tester (order separately). Snap lock fastens case around your belt; Velcro® seal secures tester. Pictured at right. 5.5"L x 2"W x 7.75"H (14 x 5 x 20 cm).
WD-35650-09 Replacement electrode sensor for ORPTestr 10
WD-35805-13 ORP electrode; single junction, epoxy-body, gel-filled electrode with **3-ft** cable. For use with ORPTestr 10 BNC
WD-09377-16 Replacement batteries; 1.5 V. Pack of 6

Custom Kits and Accessories

"Build Your Own" Testr® Kits

Create the kit that *you* want!

▼ Choose up to two waterproof Oakton® Testrs, then order the case and add the accessories you need

Mix or match pH and ORP Testrs

▼ Fit the parameters and ranges of your applications

Just follow these 4 easy steps:

1. Order up to two waterproof Testrs and replacement elecrodes. For complete information, see page listed.

Testr Catalog number	Model	Accuracy	Page	Electrode Catalog number
WD-35634-00	pHTestr® Basic	±0.2 pH	5	WD-35624-09
WD-35634-10	pHTestr® 10	±0.1 pH	4	WD-35624-38
WD-35634-20	pHTestr® 20	±0.01 pH	4	WD-35624-38
WD-35634-30	pHTestr® 30	±0.01 pH/°C	4	WD-35624-38
WD-35634-14*	pHTestr® 10 BNC	±0.1 pH	7	WD-35804-00*
WD-35634-40	pH Spear	±0.01 pH	6	WD-35634-50
WD-35650-10	ORPTestr®	±2 mV	8	WD-35650-09
WD-35650-14*	ORPTestr® 10 BNC	±2 mV	8	WD-35805-13*

*BNC Testrs do not include an electrode; order any pH or ORP electrode with BNC connector.

2. Order a case.

WD-35653-71 Hard carrying case with foam inserts

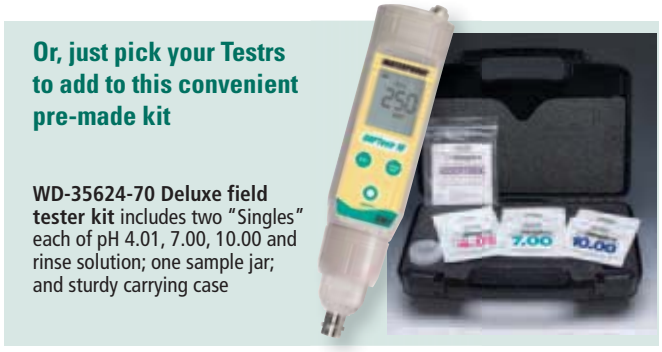
3. Order buffer and rinse water pouches.

These pH "Singles" pouches are convenient, air-tight pouches with high-precision calibration standards. All are freshness dated, and standardized against NIST-certified references to ensure quality. ±0.01 pH at 25°C. Each box contains twenty 20-mL pouches.

Catalog number	Description
WD-35653-01	"Singles" pH 4.01
WD-35653-02	"Singles" pH 7.00
WD-35653-03	"Singles" pH 10.00
WD-35653-00	"Singles" deionized rinse water pouches
WD-35653-04	"Singles" assortment; five each of pH 4.01, 7.00, 10.00, rinse water

4. Order additional accessories.

Catalog number	Description
WD-06758-49	Sample bottle; HDPE, 30 mL
WD-35624-45	Soft carrying case, holds one tester and buffer pouches (order separately). Snap lock fastens case around your belt; Velcro® seal secures tester. 5.5"L x 2"W x 7.75"H (14 x 5 x 20 cm)
WD-09377-16	Replacement batteries, 1.5 V. Pack of 6


Or, just pick your Testrs to add to this convenient pre-made kit
WD-35624-70 Deluxe field tester kit includes two "Singles" each of pH 4.01, 7.00, 10.00 and rinse solution; one sample jar; and sturdy carrying case

35625-45

TDS and Conductivity custom kits are also available. See page 37.

pH Solution Bottles

Labeled with pH vs temperature tables for accurate calibration reference NIST traceable

Oakton® pH buffer solution bottles are labeled with the name and CAS number for all ingredients (for "Right-to-Know" requirements), and are supplied with an MSDS (Material Safety Data Sheet). Economical one-pint bottle.

Convenient, individually sealed pH "Singles" buffer pouches are available above. Electrode care solutions are on page 32.

Ordering Information

Catalog number	Description
WD-00654-01	Buffer solution pH 1.68
WD-00654-00	Buffer solution pH 4.01
WD-00654-04	Buffer solution pH 7.00
WD-00654-08	Buffer solution pH 10.00
WD-00654-12	Buffer solution pH 12.45

00654-00

Handheld pH/Ion Meter Selection Guide

Oakton® handheld meters offer a wide range of features ideal for portability in the field. These meters are generally available with either a separate pH electrode and temperature probe, or a combination "All-in-One" pH and temperature sensor. Designed for a variety of applications, many of these meters offer special features such as:

- mV readings for ORP measurement
- Ion concentration readings
- IP67-rated waterproof, dustproof housing
- Auto-buffer recognition and selectable buffer sets
- Up to five-point pH calibration
- Auto shutoff, Hold function, and error messages
- Optional AC adapter and built-in table stand for benchtop use
- Data management functions such as memory and RS-232 output

Calibration kits and multiparameter meters that read pH and conductivity, TDS, or dissolved oxygen are also available.

Acorn® series

Standard series

Waterproof 300 series

Waterproof 600 series

Use this chart to find the best pH meter for your application.

Meter	Acorn® series Models 5/6	Standard series Models 11/110	Waterproof 300 series Models 300/310	Waterproof 600 series Models 600/610/620
See pages	11–12	13–14	15	16–17
Description	Low-cost, rugged compact	Economical, dual-display meter	Handles rough environments	Most powerful, ideal for the field
Display	Single-line LCD	Dual LCD	Dual LCD	Multi-line dot matrix
IP67 housing	—	—	Yes	Yes
Memory	—	Up to 100 points	Up to 100 points	Up to 500 points
Communication	—	RS-232 available	—	IrDA
Real-time clock	—	—	Available	Available
pH calibration points	3	5 or 6	5 or 6	5 or 6
Auto buffer recognition	Yes	Yes	Yes	Yes
Selectable buffer sets	Yes	Yes	Yes	Yes
Automatic endpoint	—	—	Yes	Yes
Automatic shutoff	After 17 minutes	After 20 minutes	After 20 minutes	Yes, adjustable
Hold function	Yes	Yes	Available	Available
Ready/stability indicator	—	Yes	Yes	Yes
Error messages	Yes	Yes	Yes	Yes
Protective rubber boot	Included	—	—	Optional
Built-in stand	Yes (in boot)	Yes	—	Yes (in boot)
Optional AC power	—	Yes	—	Yes

Acorn® pH 5 and 6 Meters

These rugged, compact meters offer high accuracy at an extremely affordable price!

Left: pH 6 handheld meter shown with pH electrode 35801-00 and temperature probe 35613-05.

Above top: pH meter kit includes everything you need for calibration and measurement.

Above bottom: Protective rubber boot features a built-in stand.

Simple push-button operation
▼ So fast and easy, anyone can use it—no trimpots to adjust!

Toggle between pH and temperature in °C with a press of a button

Three-point pH calibration
▼ Choose from standard US, NIST, and pure water; gives you high ±0.01 pH accuracy

Auto buffer recognition
▼ Automatically identifies the correct pH buffer for rapid calibration

Calibration instructions are printed on back of meter
▼ For quick reference and added convenience

Automatic temperature compensation (ATC)
▼ For the highest accuracy in changing temperature conditions

Hold and Auto-off functions

Protective boot
▼ Helps shield your meter from drops and dings and features a convenient built-in stand

Meter kits available
▼ Contain everything you need for calibration and measurement packaged in a hard carrying case—the best option.

pH 6 also features:

Measurements in pH, mV, and °C
▼ Use for ORP (Redox) measurements

A wide range of electrodes are available for use with your Acorn pH Meters. See pages 26–29 to order.

Applications

Water Quality Testing: Analyzing water in pools or spas, lithographic processes, boiler and cooling tower water analysis, and all types of quality assurance and water quality testing.
Environmental/Agricultural: Use in ecology studies, aquariums, and hydroponics.
Educational: Ideal for quick, accurate checks in labs and schools.

ISO 9001:2000 CERTIFIED SUPPLIER CE 3 year warranty meter only

Specifications

Model	pH 5 and pH 6 meters		pH 6 meter only
Mode	pH	Temperature	mV
Range	0.00 to 14.00 pH	0.0 to 100.0°C	±1000 mV
Resolution	0.01 pH	0.1°C	1 mV
Accuracy	±0.01 pH	±0.5°C	±2 mV
Calibration	Up to 3 buffer values: choose from standard US, NIST, and pure water buffer values	Offset 0.1°C increments	±20 mV

Temperature compensation: automatic from 0.0 to 100.0°C
Operating temperature: 0 to 50°C (32 to 122°F)
Power: four 1.5 V AAA batteries (included), >70 hours continuous use

Dimensions
Meter: 5.5"L x 2.7"W x 1.3"H (14 x 7 x 3.5 cm)
Boxed: 9.25"L x 6.5"W x 3.0"H (23.5 x 16.5 x 7.5 cm)
Weight
Meter: 0.9 lb (408 g); Boxed: 1 lb (450 g)

Ordering Information

Catalog number	Description	Included
WD-35613-01	pH 5 meter only	Meter, protective rubber boot, and batteries
WD-35613-11	pH 6 meter only	
WD-35613-00	pH 5 meter with probes	Meter, pH electrode 35801-00, temperature probe 35613-05, protective rubber boot, and batteries
WD-35613-10	pH 6 meter with probes	
WD-35613-70	pH 5 meter kit	Meter, pH electrode 35801-00, temperature probe 35613-05, pH "Singles" buffer pouches (pH 4.01, 7.00, 10.00 and rinse water), three sample bottles, squeeze bottle, batteries, and hard carrying case
WD-35613-72	pH 6 meter kit	

Acorn® Ion 5 and 6 Meters

Direct readout of ion concentration at breakthrough pricing!

Left: Acorn Ion 6 meter

Top right: Protective rubber boot features a built-in stand.

Lower right: ISE labware kit 35613-60 contains the glassware you need for making serial dilutions.

Simple to use
▼ Preprogrammed calibration points allow even beginners to take readings in minutes!

Works with many ion-selective electrodes
▼ ±500 mV ranges covers the vast majority of ISEs

Compact size
▼ Take your Acorn Ion meter anywhere!

mV measurement mode
▼ Allows you to check performance and calibration of your ion-selective electrode

All push-button operation
▼ For fast, easy use—no trimpots to adjust!

Hold and Auto-off functions

Protective boot
▼ Helps shield your meter from drops and dings and features a built-in stand

Ion 6 meter also features:

pH and temperature (°C) readout
▼ With high ±0.01 pH/±0.5°C accuracy

Automatic temperature compensation (ATC) for pH
▼ For the highest accuracy in changing temperature conditions

Use with most pH electrodes with BNC connector

See pages 30–31 for ion-selective electrodes

Specifications

ISO 9001:2000 CERTIFIED SUPPLIER · CE · 3 year warranty

Mode	Ion 5 and Ion 6 meters		Ion 6 meter only	
Parameter	Ion	mV	pH	Temperature
Range	0.01 to 1999 units	–500 to +500 mV	0.00 to 14.00 pH	0.0 to 100.0°C
Resolution	0.01 unit (0.01 to 0.99 units), 0.1 unit (0.1 to 199.9 units), 1 unit (200 to 1999 units)	0.1 mV within ±199.9 mV, 1 mV beyond ±200 mV	0.01 pH	0.1°C
Accuracy	±1% full-scale	±0.2 mV within ±199.9 mV, ±2 mV beyond ±200 mV	±0.01 pH	±0.5°C
Calibration	2 or 3 points; 0.1, 1, 10, 100 ppm (minimum 2 points)	Not available	Up to 3 buffer values (pH 4.01, 7.00, 10.0), auto-buffer recognition	Offset 0.1°C increments

Minimum slope during ion calibration: 40 mV/decade for monovalent ions; 20 mV/decade for divalent ions

pH slope range (Ion 6 only): 80 to 120%

Temperature compensation (Ion 6 only): manual or automatic from 0.0 to 100.0°C

Operating temperature: 0 to 50°C (32 to 122°F)

Power: four 1.5 V AAA batteries (included), >200 hours continuous use

Dimensions
Meter: 5.5" x 2.7" x 1.3" (14 x 7 x 3.5 cm)
Boxed: 9.25" x 6.5" x 3.0" (23.5 x 16.5 x 7.5 cm)

Weight
Meter only: 0.9 lb (408 g); Boxed: 1 lb (450 g)

Applications

ISE: Use with any ISE electrode with BNC connection to take direct measurements of ion concentration. Titration methods allow measurement of many other types of ions.

Water Quality Testing: Ideal for quick fluoride level checks.

Environmental/Agricultural: Use for checking nutrient levels in aquariums, aquaculture, and hydroponics.

Educational: Ideal for quick, accurate tests in labs and schools.

Laboratory/Industrial: Use for water hardness testing or other ions in feed or wastewater, sewage treatment, soil testing, fertilizer testing, plant tissue testing, food processing (check sodium and potassium levels), geological testing, and metal plating. Also use in the paper/pulp and pharmaceutical industries.

Ordering Information

Catalog number	Description	Included
WD-35613-21	Ion 5 meter only	Meter, protective rubber boot, and batteries
WD-35613-31	Ion 6 meter only	
WD-35613-74	Ion 6 meter kit	Meter, temperature probe, pH electrode, pH sample bottles, calibration pouches, rinse bottle, carrying case, protective rubber boot, and batteries

WD-35613-60 ISE Labware kit is ideal for standard and sample preparations. Kit includes one 10-mL graduated pipette and bulb, one 10-mL graduated cylinder, and three 250-mL beakers

pH 11 Economy Meter

Our most economical meter with dual display lets you see BOTH pH or mV and temperature at a glance!

Left: pH 11 meter shown with "All-in-One" pH electrode/temperature probe.

Above top: Large LCD simultaneously displays measured parameter and temperature.

Above bottom: pH 11 meter kit contains everything you need for calibration and measurement in a hard carrying case.

Measurements in both pH and mV

Five-point pH calibration
- Choose US or NIST buffer sets

Auto buffer recognition
- Automatically identifies the correct pH buffer for rapid calibration

Selectable manual or automatic temperature compensation (ATC)
- For the highest accuracy in any situation

Built-in memory function
- Stores up to 50 readings

Ready indicator
- Indicates when reading has stabilized, so you always record the best reading

Hold function
- Freezes measurements for convenient reading and recording

Auto-off function
- Turns off meter to save batteries

Power with batteries or optional AC adapter
- For use in the field or at your benchtop using built-in stand

Use with most electrodes with BNC connector

Available as a kit
- Complete with calibration buffers, rinse bottle, and protective carrying case

ISO 9001:2000 CERTIFIED SUPPLIER CE 2 year warranty meter only

Specifications

Mode	pH	mV	Temperature
Range	–2.00 to 16.00 pH	–199.9 to +199.9 mV, –1999 to +1999 mV	–10.0 to 110.0°C
Resolution	0.01 pH	0.1 mV/1 mV	0.1°C
Accuracy	±0.01 pH	±0.2 mV ±199.9 mV, ±2 mV beyond ±199.9 mV	±0.5°C
Calibration	Up to 5 buffer values: pH 1.68, 4.01, 6.86/7.00, 9.18/10.01, 12.45	—	Offset 0.1°C increments

Temperature compensation: automatic or manual from 0 to 50°C

Operating temperature: 0 to 50°C (32 to 122°F)

Power: four 1.5 V AAA batteries (included), >600 hours continuous use; 9 V, 500 mA AC adapter (optional)

Dimensions
Meter: 7.5"L x 3.5"W x 1.75"H (19 x 9 x 4.5 cm)
Boxed: 9.2"L x 9.2"W x 2.75"H (23 x 23 x 7 cm)

Weight
Meter: 10 lb (0.5 kg); Boxed: 1.4 lb (0.7 kg)

Ordering Information

Catalog number	Description	Included
WD-35614-22	pH 11 meter only	Meter, two electrodes holders, and batteries
WD-35614-20	pH 11 meter	Meter, "All-in-One" pH/temperature probe 35811-71, two electrode holders, and batteries
WD-35614-80	pH 11 meter kit	Meter, "All-in-One" pH/temperature probe 35811-71, 20 pH buffer pouches, three sample bottles, rinse bottle, hard carrying case, two electrode holders, and batteries

WD-35615-07 AC adapter, 110 VAC

WD-35615-08 AC adapter, 220 VAC

WD-35811-72 Double-junction "All-in-One" electrode

WD-09376-00 Replacement batteries, 1.5 V AAA. Pack of 12

WD-35615-75 Portable meter carrying case. Protects your instrument while still letting you take measurements—case's top and side openings let probe and probe connections remain accessible. (Meter and probes not included).

Applications

Water Quality Testing: Great for analyzing water in pools or spas, photographic developing processes, and all types of quality assurance and water quality testing.

Environmental/Agricultural: Use in ecology studies, aquariums, and hydroponics.

Educational: Ideal for quick, accurate routine pH checks in labs and schools.

pH 110 Meter

Features RS-232 output and advanced setup mode!

FREE Oakton® datalog software on a CD-ROM
- Helps organize data to import into many popular spreadsheet programs

Five-point pH calibration
- Choose from US, NIST or DIN buffer sets

Automatic buffer recognition
- For quick pH calibration

Features mV offset
- For calibration to ORP standards, zeroing the mV value, and pH electrode diagnostics

Recall electrode slope, electrode offset value, and previous calibration data

Built-in memory function
- Stores up to 100 pH, mV, or relative mV readings, along with temperature data

Selectable manual or automatic temperature compensation (ATC)
- For highest accuracy in any situation

°C/°F selectable

Hold and Auto-off functions; Error messages

Power with batteries or optional AC adapter
- Use in the field or at your benchtop using built-in meter stand

Available as a kit
- Complete with calibration buffers, rinse bottle, and protective carrying case.

Right: pH 110 meter

Left top: Easily download data readings into your computer.

Left bottom: Use an optional printer with the pH 110 meter to create hard copies of your readings.

ISO 9001:2000 CERTIFIED SUPPLIER

CE

3 year warranty meter only

Specifications

Mode	pH	mV	Temperature
Range	–2.00 to 16.00 pH	±2000 mV (same for relative mV)	–10 to 110.0°C (14 to 230°F)
Resolution	0.01 and 0.1 pH (selectable)	0.1 mV ±399.9 mV, 1 mV beyond	0.1°C
Accuracy	±0.01 pH	±0.2 mV ±399.9 mV, 2 mV beyond	±0.5°C
Calibration	Up to 5 buffer values: 1.09, 1.68/3.06, 4.01/4.65, 6.79/6.86/ 6.97/7.01, 9.18/10.01, 12.45/12.75	Offset to ±2000 mV	Offset 0.1°C increments

Temperature compensation: manual or automatic (selectable) from 0 to 100°C

Operating temperature: 0 to 50°C (32 to 122°F)

Memory: stores up to 100 sets

RS-232 specifications
Baud rate: 2.4; 4.8; 9.6 and 19.2 kbps selectable
Stop bit: 1 or 2 selectable
Parity: odd (1); even (2); or none (0) selectable

RS-232 output connector: 9-pin female

Computer requirements: 386 and above that can run Microsoft Windows® 95 or higher, CD-ROM drive, hard disk with approx. 500 KB free disk space, EGA monitor or above, 9-pin serial port connecting cable, mouse

Power: four 1.5 V AAA batteries (included), >600 hours continuous use; 9 V, 500 mA AC adapter (optional)

Dimensions
Meter: 7.5" x 3.5" x 1.75" (19 x 9 x 4.5 cm)
Boxed: 9.2" x 9.2" x 2.75" (23 x 23 x 7 cm)

Weight
Meter: 1.0 lb (0.5 kg); Boxed: 1.4 lb (0.6 kg)

Ordering Information

Cat. no.	Description	Included
WD-35615-22	pH 110 meter only	Meter, two electrode holders, software, and batteries
WD-35615-20	pH 110 meter	Meter, "All-in-One" pH/temperature probe 35811-71, two electrode holders, software, and batteries
WD-35615-80	pH 110 meter kit	Meter, "All-in-One" probe, pH buffer pouches, three sample bottles, rinse bottle, two electrode holders, software, hard carrying case, and batteries

Applications

Industrial: Ideal for pH checks in water conditioning plants, cooling towers, plating and finishing operations, food processing water testing (for HACCP compliance), printing and chemical industries, and water/wastewater treatment.

Environmental/Agricultural: Use in ecology studies, aquariums, and hydroponics.

Laboratory: Use in all types of food processing, environmental studies, chemical labs, titrations, and quality assurance testing, especially where GLP data management is required.

ORP: Use with an ORP electrode to monitor plating operations, ozonation system efficiency, and other redox measurements.

Accessories

WD-35615-07 AC adapter, 110 VAC

WD-35615-08 AC adapter, 220 VAC

WD-35811-72 Double-junction "All-in-One" electrode

WD-09376-00 Replacement batteries, 1.5 V AAA. Pack of 12

WD-35615-75 Portable meter carrying case. Protects your instrument while still letting you take measurements

RS-232 Computer/Printer Accessories

WD-35615-09 Computer cable, 9-pin male to 9-pin female connects meter to your PC

WD-35622-00 Portable printer, 110 VAC, rechargeable. Shpg wt 2 lb (0.9 kg)

WD-35622-05 Portable printer, 220 VAC, rechargeable. Shpg wt 2 lb (0.9 kg)

WD-35622-59 Printer cable, 25-pin male to 9-pin male connects meter to your printer

http://www.novatech-usa.com/Products/Laboratory-Equipment-Supply-Products Tel: (281) 359-8538 Toll Free:(866) 433-6682

pH 300 and pH 310 Meters

Highly advanced microprocessor-based pH meters with a superior waterproof housing...and they FLOAT!

Durable waterproof and dustproof design with IP67 rating

Push-button pH calibration at five points
- 1.68, 4.01, 7.01, 10.01, and 12.45

Automatic buffer recognition

Selectable manual or automatic temperature compensation (ATC)
- For the highest accuracy in any situation

Store and recall pH with temperature readings

Easy-to-clean housing
- Ideal for dirty, wet environments or food-related applications

Advanced setup mode
- Lets you customize meter to your application

Hold, Ready indicator, and Automatic shutoff functions

Available as a complete field calibration kit, most convenient option

pH 310 also features:

Built-in real-time clock
- Stamps stored data and calibration data with date and time—meets standards for GLP (Good Laboratory Practices)

Expanded memory
- Stores and recalls up to 50 readings with temperature

°C/°F selection

Automatic endpoint
- Automatically freezes reading when stable

Selectable buffer sets for Standard US, NIST, and DIN buffers

Far right: Large dual LCD shows measurement plus temperature, units, and current function. pH 300 portable meter shown with "All-in-One" combination pH electrode/ temperature sensor and electrode holder

Right: Superior waterproof housing that floats for those accidental drops into water.

ISO9001:2000 CERTIFIED SUPPLIER CE 3 year warranty meter only

Specifications

Mode		pH 300 meter	pH 310 meter
Range	pH	–2.00 to 16.00	–2.00 to 16.00
	Temp	0.0 to 100.0°C	0.0 to 100.0°C; 32.0 to 212.0°F (selectable)
	mV	±2000 mV	±2000 mV
Resolution	pH	0.01 pH	0.01 pH
	Temp	0.1°C	0.1°C; 0.1°F
	mV	0.1 mV ±199.9 mV, 1 mV beyond ±199.9 mV	0.1 mV ±199.9 mV, mV beyond ±199.9 mV
Accuracy	pH	±0.01 pH	±0.01 pH
	Temp	±0.5°C	±0.5°C; ±0.5°F ±2 mV beyond ±199.9 mV
	mV	±0.2 mV ±199.9 mV, ±2 mV beyond ±199.9 mV	±0.2mV ±199.9 mV, ±2 mV beyond ±199.9 mV
Calibration	pH	Up to 5 buffer values: 1.68, 4.01, 7.01, 10.01, 12.45	Up to 6 buffer values (select from 3 sets): USA: 1.68,4.01, 7.01, 10.00, 12.45 NIST: 1.68, 4.01, 6.86, 9.18, 12.45 DIN: 1.09, 2.06, 4.65, 6.79, 9.23, 12.75
	Temp	Offset 0.1°C increments	Offset 0.1°C or 0.1°F increments
	mV	Offset up to ±150 mV	Offset up to ±150 mV
Memory		Up to 16 sets	Up to 50 sets with date and time
Real-time clock		None	Time-and-date stamp on calibration and stored data

Temperature compensation: automatic or manual (selectable) from 0 to 100°C
Ambient operating temperature: 0 to 50°C (32 to 122°F)
Power: four 1.5 V AAA batteries (included), >100 hours continuous use

Dimensions
Meter: 7.5"L x 3.75"W x 2.25"H (19 x 9.5 x 5.7 cm)
Boxed: 9.2"L x 9.2"W x 2.75"H (23 x 23 x 7 cm)
Weight
Meter: 1.0 lb (0.45 kg); Boxed: 2.0 lb (0.9 kg)

Ordering Information

Catalog number	Description	Included
WD-35618-02	pH 300 meter only	Meter and batteries
WD-35618-12	pH 310 meter only	Meter and batteries
WD-35618-03	pH 300 meter	Meter, "All-in-One" probe 35808-71, and batteries
WD-35618-13	pH 310 meter	Meter, "All-in-One" probe 35808-71, and batteries
WD-35618-70	pH 300 meter kit	Meter, "All-in-One" probe, pH "Singles" buffer pouches (five each of 4.01, 7.00, 10.00, and rinse water), three sample bottles, rinse bottle, two electrode holders, batteries, and hard carrying case
WD-35618-72	pH 310 meter kit	Meter, "All-in-One" probe, pH "Singles" buffer pouches (five each of 4.01, 7.00, 10.00, and rinse water), three sample bottles, rinse bottle, two electrode holders, batteries, and hard carrying case

WD-35808-71 Replacement "All-in-One" pH/ temperature probe, single junction, epoxy body
WD-35808-72 "All-in-One" pH/temperature probe, double junction, epoxy body
WD-35614-79 Calibration kit includes "Singles" pH buffer pouches (five each of 4.01, 7.00, 10.00, and rinse water), squeeze bottle, and hard carrying case. (Meter not included)

pH 600 and pH 610 Meters

Expanded range, resolution, and accuracy—plus increased memory and advanced communications!

Durable waterproof and dustproof design with IP67 rating
- Even with no probes attached and the battery compartment open

Push-button pH calibration at up to six points
- Up to 15 buffer options with auto-buffer recognition of USA, NIST, DIN, and PWB standards

Large backlit graphic display
- Multi-line display with electrode status indicator, calibration data, and more

User-settable "calibration due" alarm
- Out-of-date or unperformed calibrations are now things of the past!

Built-in real-time clock
- Time-and-date stamping meets Good Laboratory Practice (GLP) standards

Store up to 500 data sets
- Infrared IrDA wireless technology makes PC downloading convenient and easy

Set point alarms
- Audible warning when readings are outside set points limit

Research-grade accuracy
- Resolution to 0.001 pH and accuracy to ±0.002 pH on pH 610 model

Electrode status indicator
- Calibration data provides electrode diagnostic tool

Password protection
- Security for calibration and setup menus

Multiparameter models available. See pages 56–59.

Right: pH 610 meter

Left top: Easily download data readings into your computer.

Left bottom: Complete kits available; includes meter, carrying case and solutions.

Specifications

CE 3 year warranty

Mode		pH 600 meter	pH 610 meter
Range	pH	–2.00 to 19.99	–2.000 to 19.999
	mV	±2000 mV	±2000 mV
	Temperature	–10.0 to 110.0°C (14.0 to 230.0°F), selectable	–10.0 to 110.0°C (14.0 to 230.0°F), selectable
Resolution	pH	0.1/0.01 pH	0.1/0.01/0.001 pH
	mV	0.1 mV	0.1 mV
	Temperature	0.1°C (0.1°F)	0.1°C (0.1°F)
Accuracy	pH	±0.01 pH	±0.002 pH
	mV	±0.2 mV	±0.2 mV
	Temperature	±0.5°C (±0.9°F)	±0.5°C (±0.9°F)
Calibration	pH	Up to 6 buffer values (select from 4 sets): USA 1.68, 4.01, 7.01, 10.01, 12.45; NIST: 1.68, 4.01, 6.86, 9.18, 12.45; DIN: 1.09, 2.06, 4.65, 6.79, 9.23, 12.75, or custom buffers	
	mV	Offset up to ±150 mV	
	Temperature	Offset 0.1°C (0.1°F) increments	

Memory: up to 500 sets with GLP date and time
Output: infrared, IrDA
Real-time clock: time-and-date stamp on calibration and stored data
Temperature compensation: automatic or manual (selectable) from 0 to 100°C
Ambient operating temperature: 0 to 50°C (32 to 122°F)
Power: four 1.5 V AA batteries (included) or optional universal AC adapter, up to 500 hours continuous use
Dimensions
Meter: 7.25"L x 3.25"W x 2.25"H
Boxed: 9.2"L x 9.2"W x 2.75"H (23 x 23 x 7 cm)
Weight
Meter: 1.0 lb (0.45 kg); Boxed: 2.0 lb (0.9 kg)

Ordering Information

Catalog number	Description	Included
WD-35418-02	pH 600 meter only	Meter and batteries
WD-35418-12	pH 610 meter only	Meter and batteries
WD-35418-00	pH 600 meter	Meter, "All-in-One" probe 35816-71, and batteries
WD-35418-10	pH 610 meter	Meter, "All-in-One" probe 35816-71, and batteries
WD-35418-70	pH 600 meter kit	Meter, "All-in-One" probe, pH buffers (60 mL each of 4.01, 7.00, electrode storage solution, and rinse water), rubber boot, two electrode holders, batteries, and hard carrying case
WD-35418-80	pH 610 meter kit	Meter, "All-in-One" probe, pH buffers (60 mL each of 4.01, 7.00, electrode storage solution, and rinse water), rubber boot, two electrode holders, batteries, and hard carrying case

WD-35816-71 Replacement "All-in-One" pH/temperature probe, single-junction, epoxy body
WD-35816-72 "All-in-One" pH/temperature probe, double-junction, epoxy body
WD-35418-05 ATC probe. Use for temperature compensation with any pH electrode without built-in ATC
WD-35418-83 Optional adapter, 110/220 VAC

pH 620 Meter

Research-grade ion-selective performance in a waterproof portable unit

Durable waterproof and dustproof design with IP67 rating
- Even with no probes attached and the battery compartment open

Push-button pH calibration at up to six points
- Up to 15 buffer options with auto-buffer recognition of USA, NIST, DIN, and PWB standards

Large backlit graphic display
- Multi-line display with electrode status indicator, calibration data, and more

User-settable "calibration due" alarm
- Out-of-date or unperformed calibrations are now things of the past!

Built-in real-time clock
- Time-and-date stamping meets Good Laboratory Practice (GLP) standards

Store up to 500 data sets
- Infrared IrDA wireless technology makes PC downloading convenient and easy

Set point alarms
- Audible warning when readings are outside set points limit

Research-grade accuracy
- Resolution to 0.001 pH and accuracy to ±0.002 pH

Electrode status indicator
- Calibration data provides electrode diagnostic tool

Password protection
- Security for calibration and setup menus

Ion Selective electrodes are available for 21 different ions. See pages 30–31.

Right: pH 620 meter

Above top: BNC connector for quick, easy connections.

Above middle: Infrared output for easy data transfer.

Above bottom: Connector for optional VAC adapter.

Specifications

CE 3 year warranty

Mode		pH 620 meter
Range	pH	–2.000 to 19.999
	Ion	0.001 to 19,900 ppm, molar, or mg/L
	mV	±2000 mV
	Temperature	–10.0 to 110.0°C (14.0 to 230.0°F), selectable
Resolution	pH	0.1/0.01/0.001 pH
	Ion	2 or 3 digits
	mV	0.1 mV
	Temperature	0.1°C (0.1°F)
Accuracy	pH	±0.002 pH
	Ion	±0.5% full-scale (monovalent); ±1% full-scale (divalent)
	mV	±0.2 mV
	Temperature	±0.5°C (±0.9°F)
Calibration	pH	Up to 6 buffer values (select from 4 sets): USA 1.68, 4.01, 7.01, 10.01, 12.45 NIST: 1.68, 4.01, 6.86, 9.18, 12.45 DIN: 1.09, 2.06, 4.65, 6.79, 9.23, 12.75, or custom buffers
	Ion	Up to 6 points
	mV	Offset up to ±150 mV
	Temperature	Offset 0.1°C or 0.1°F increments

Memory: up to 500 sets with GLP date and time
Output: infrared, IrDA
Real-time clock: time-and-date stamp on calibration and stored data
Temperature compensation: automatic or manual (selectable) from 0 to 100°C
Ambient operating temperature: 0 to 50°C (32 to 122°F)

Power: four 1.5 V AA batteries (included) or optional universal AC adapter, up to 500 hours continuous use
Dimensions
Meter: 7.25"L x 3.25"W x 2.25"H
Boxed: 9.2"L x 9.2"W x 2.75"H (23 x 23 x 7 cm)
Weight
Meter: 1.0 lb (0.45 kg); Boxed: 2.0 lb (0.9 kg)

Ordering Information

Catalog number	Description	Included
WD-35418-22	pH 620 meter only	Meter and batteries
WD-35418-20	pH 620 meter	Meter, "All-in-One" probe 35816-71, and batteries
WD-35418-90	pH 620 meter kit	Meter, "All-in-One" probe, pH buffers (60 mL each of 4.01, 7.00, electrode storage solution, and rinse water), rubber boot, two electrode holders, batteries, and hard carrying case

WD-35816-71 Replacement "All-in-One" pH/temperature probe, single-junction, epoxy body
WD-35816-72 "All-in-One" pH/temperature probe, double-junction, epoxy body
WD-35418-05 ATC probe. Use for temperature compensation with any pH electrode without built-in ATC
WD-35418-83 Optional adapter, 110/220 VAC

Laboratory Benchtop pH Meter Selection Guide

Oakton® benchtop pH meters provide accurate measurements, are easier to use, include the functions you need, and are built to last with three-year warranties. Overall, they are a great value for your money.

Mode	Basic Series		Advanced Series		Specialty Meter
	pH 510	Ion 510	pH 1100	pH 2100	pH/CON 510
See page(s)	19	20	21	22–23	24
Measuring parameters	pH, mV, °C	Ion concentration, pH, mV, relative mV, °C	pH, mV, relative mV, °C, °F	Ion concentration, pH, mV, relative mV, °C, °F	pH, mV, conductivity, Total Dissolved Solids, °C, °F
pH					
Range	0.00 to 14.00 pH		–2.000 to 16.000 pH		–2.00 to 16.00 pH
Resolution	0.01 pH		0.001/0.01 pH		0.01 pH
Accuracy	±0.01 pH		±0.002 pH		±0.01 pH
Calibration	Three points (choose from USA or NIST)		Five points (choose from USA or NIST)		Five points
mV					
Range	±199.9; ±1999 mV		±1800 mV		±199.9/600 mV
Resolution	0.1 mV from ±199.9 mV; 1 mV beyond		0.1 mV		0.1/1 mV
Accuracy	±0.2 mV from ±199.9 mV; 2 mV beyond		±0.2 mV		±0.2/2 mV
Calibration	Offset up to ±150 mV		Offset up to ±1800 mV		—
Relative millivolts	—		Yes		—
Ion					
Range	—	0.01 to 1999 ppm	—	0.000 to 19900 ion concentration units	—
Resolution	—	0.01/0.1/1 ppm	—	±1 least significant digit	—
Accuracy	—	±0.5% of reading	—	±1 least significant digit	—
Calibration	—	2 or 3 points: 0.1, 1, 10, 100	—	Up to 5 customizable points	—
Temperature					
Range	0.0 to 100.0°C		–5.0 to 105.0°C (23 to 221°F)		0.0 to 100.0°C (32.0 to 212.0°F)
Resolution	0.1°C		0.1°C (0.1°F)		0.1°C (0.1°F)
Accuracy	±0.5°C	±0.3°C	±0.3°C (±0.5°F)		±0.5°C (±0.5°F)
Temperature compensation	Automatic or manual, from 0 to 100°C		Automatic or manual, from 0 to 100°C (32 to 212°F)		Automatic or manual, from 0 to 100°C (32 to 212°F)
Special Meter Functions/Features					
Calculates electrode slope	—		Yes		Yes
High/Low set point alarms	—		Yes		—
Displays calibration data	—		Yes		Yes
Recorder output	Yes		Yes		—
RS-232 output	—		Yes		—
Built-in electrode stand	Yes (excludes models 35619-02 and -03)		Yes		Yes
Power	110/220 VAC, 50/60 Hz		110/220 VAC, 50/60 Hz		110/220 VAC, 50/60 Hz

pH 510 Meter

Our most economical benchtop meter—a best buy in its price range!

Low cost plus high performance
▼ This meter offers laboratory-quality readings for a very economical cost

Dual display shows both pH (or mV) and temperature
▼ Plus mode indicators and annunciators to signal meter status

Three-point pH calibration with auto buffer recognition
▼ Calibrate at 4.01, 7.00, and 10.01 for high accuracy across the entire measuring range

Selectable buffer sets
▼ Choose from USA or NIST buffer sets

Switch from pH to mV readings with a button press

Features 0.1 mV resolution for ORP measurements

Available with built-in electrode stand
▼ Holds electrode firmly in place

Selectable manual or automatic temperature compensation
▼ For high accuracy with or without a temperature sensor

Built-in memory function
▼ Stores up to 50 pH, mV, or relative mV readings with corresponding temperature

Analog recorder output
▼ Create hard copies of your readings

Hold function, "Ready" indicator, diagnostic error messages

Slide-out instruction card for quick reference

Shown with available electrode stand and slide-out instruction card (included).

35619-10

Specifications

ISO 9001:2000 CERTIFIED SUPPLIER · CE · 3 year warranty

Mode	pH	mV	Temperature
Range	0.00 to 14.00 pH	±1999 mV	0 to 100.0°C
Resolution	0.01 pH	0.1 mV from ±199.9 mV, 1 mV beyond ±199.9 mV	0.1°C
Accuracy	±0.01 pH	±0.2 mV from ±199.9 mV, ±2 mV beyond ±199.9 mV	±0.3°C
Calibration	Up to 3 points (USA: 4.01; 7.00; 10.01 or NIST: 4.01, 6.86; 9.18); auto-buffer recognition	Offset up to ±150 mV	Offset 0.1°C increments up to ±5°C

Input impedance: >1012 Ω
Temperature compensation: selectable manual or automatic from 0 to 100°C
Memory: up to 50 sets, pH and temperature
Recorder output: ±2000 mV (directly proportional to input)
Recorder output connector: mini pin (subminiature phono plug)
Display: dual display of measurement with temperature and mode annunciators
Error messages: diagnose operator error, electrode error, and meter error. Pull-out instruction card decodes message

Operating temperature: 0 to 50°C, noncondensing humidity
Power: 9 VDC, 500 mA; using AC adapters (included); 110 VAC, 60 Hz or 220 VAC, 50 Hz models. AC adapters are UL and CSA listed.
Dimensions
Meter: 9"W x 7"L x 2.375"D (23 x 18 x 6 cm)
Boxed: 15.5"W x 10"L x 3.5"D (39 x 25 x 9 cm)
Weight
Meter only: 1.25 lb (0.6 kg); Boxed: 3 lb (1.4 kg)

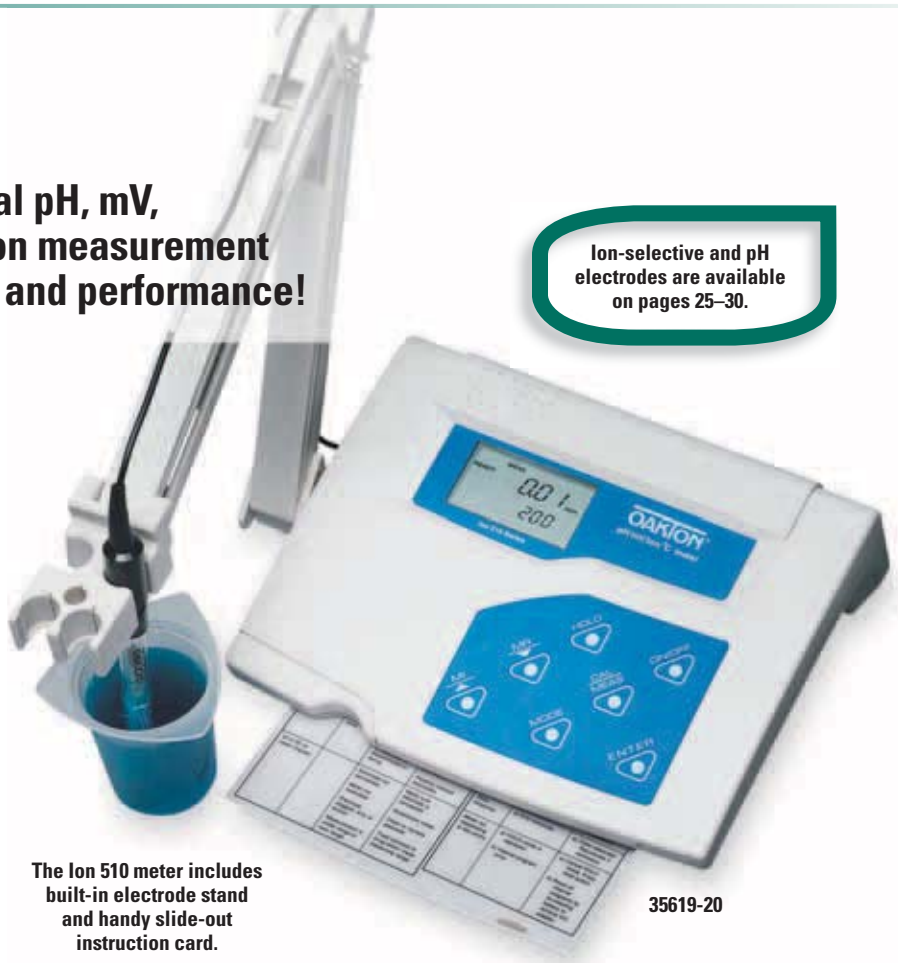
Ordering Information

Catalog number	Description	Included
WD-35619-02	pH 510 meter only	Meter and AC adapter
WD-35619-03	pH 510 meter	Meter, "All-in-One" temperature/single-junction pH electrode with electrode 35811-71, and AC adapter
WD-35619-12	pH 510 meter with stand	Meter, electrode stand, and AC adapter
WD-35619-10	pH 510 meter kit	Meter, double-junction pH electrode 35805-04, temperature probe 35613-05, electrode stand, and AC adapter

Ion 510 Meter

A benchmark in economical pH, mV, and direct ion concentration measurement without sacrificing quality and performance!

Ion-selective and pH electrodes are available on pages 25–30.



The Ion 510 meter includes built-in electrode stand and handy slide-out instruction card.

35619-20

Simple to use
▼ Preprogrammed calibration points make meter easy to use

Direct readout of ion concentration in ppm
▼ Resolution to 0.01 ppm

Dual display
▼ Shows measured parameter and °C in pH/mV modes; ion concentration and mV (electrode output) in ion mode

Features 0.1 mV resolution for ORP measurements

Simultaneous display of ppm and mV electrode output in the ion mode
▼ Verify electrode operation while taking measurements

Selectable buffer sets and three-point pH calibration with auto buffer recognition
▼ Choose from USA or NIST buffer sets

Works with many ion-selective electrodes
▼ ±1999 mV range covers most ISEs

Built-in electrode stand
▼ Holds electrode firmly in place

Selectable manual or automatic temperature compensation
▼ For highest accuracy in any situation

Built-in memory function
▼ Stores up to 50 ion, mV, or pH readings

Analog recorder output
▼ Create hard copies of your readings

Hold function, "Ready" indicator, diagnostic messages

Slide-out instruction card for quick reference

ISO9001:2000 CERTIFIED SUPPLIER

CE

3 year warranty meter only

Specifications

Mode	Ion	mV	pH	Temperature
Range	0.01 to 1999 ppm	±1999 mV	0.00 to 14.00 pH	0.0 to 100.0 °C
Resolution	0.01 ppm from 0.01 to 0.99 ppm, 0.1 ppm from 1.0 to 199.9 ppm, 1 ppm from 200 to 1999 ppm	0.1 mV from ±199.9 mV, 1 mV beyond ±199.9 mV	0.01 pH	0.1 °C
Accuracy	±0.5% of reading	±0.2 mV from ±199.9 mV, ±2 mV beyond ±199.9 mV	±0.01 pH	±0.3 °C
Calibration	2 or 3 points, 0.1; 1; 10; 100 ppm (minimum 2 points)	Offset up to ±150 mV	Up to 3 points (USA: 4.01; 7.00; 10.01 or NIST: 4.01, 6.86; 9.18); auto-buffer recognition	Offset 0.1°C increments

Input impedance: $>10^{12}\ \Omega$
Temperature compensation: selectable manual or automatic from 0 to 100°C
Memory: up to 50 sets
Recorder output: ±2000 mV (directly proportional to input)
Recorder output connector: mini pin (subminiature phono plug)
Display: dual display of pH or mV with temperature or ppm with mV electrode output mode annunciators
Error messages: diagnose operator error, electrode error, and meter error. Pull-out instruction card decodes message

Operating temperature: 0 to 50°C, noncondensing humidity
Power: 9 VDC, 500 mA; using AC adapters (included); 110 VAC, 60 Hz or 220 VAC, 50 Hz. AC adapter is UL and CSA listed.
Dimensions
Meter: 9"W x 7"D x 2.375"H (23 x 18 x 6 cm)
Boxed: 15.5"W x 10"D x 3.5"H (39 x 25 x 9 cm)
Weight
Meter only: 1.25 lb (0.6 kg); Boxed: 3 lb (1.4 kg)

Ordering Information

Catalog number	Description	Included
WD-35619-22	Ion 510 meter only	Meter, built-in electrode stand, and AC adapters
WD-35619-20	Ion 510 meter	Meter, double-junction pH electrode 35805-04, temperature probe 35613-05, built-in electrode stand, and AC adapters
WD-35619-23	Ion 510 meter	Meter, "All-in-One" combination temperature sensor/single-junction pH electrode 35811-71, built-in electrode stand, and AC adapters

pH 1100 Meter

Advanced features, high performance, and optimal versatility while maintaining a user-friendly interface

See pages 25-30 for our complete selection of pH, ORP, and ion-selective electrodes

High resolution: 0.001 pH
High accuracy: ±0.002 pH

Backlit two-line, dot matrix display
▼ Provides clear instructions for setup, measurement, and calibration

Up to five customizable calibration points
▼ Choose your own, or select US Standard or NIST buffer sets

Displays last calibration date and time

High/low set point alarms
▼ Signal readings outside your preset limits

Calibration due alarm
▼ User-defined interval ensures regularly scheduled recalibration for ISO and GLP compliance

Stores up to 100 readings with date and time
▼ Store readings either manually or on programmable real-time intervals

Features RS-232 output and FREE DAS for Windows® software; analog recorder output

Built-in real time clock
▼ With timer alarm

°C/°F selectable

Manual or automatic temperature compensation (ATC)

Calculates electrode slope and offset automatically

Detachable electrode holder; quick reference instruction guide

The pH 1100 meter includes built-in electrode stand and pull-out instruction card. **35620-00**

ISO 9001:2000 CERTIFIED SUPPLIER CE 3 year warranty meter only

Specifications

Mode	pH	mV or relative mV	Temperature
Range	–1.000 to 14.000 pH	±1850 mV	–5.0 to 105.0°C (23.0 to 221.0°F)
Resolution	0.001 pH or 0.01 pH (selectable)	0.1 mV	0.1°C or °F
Accuracy	±0.002 pH or ± 0.01 pH	±0.2 mV	±0.3°C (±0.5°F)
Calibration	Up to five customizable calibration points, or select buffer sets USA (1.68, 4.01, 7.00, 10.01, 12.45); NIST (1.68, 4.01, 6.86, 9.18, 12.45); Bf1(1.68, 4.01, 7.01, 9.18, 12.45); or Bf2 (1.68, 4.01, 6.86, 10.01, 12.45)	Offset up to ±150 mV	Offset up to ±5.0°C (±9.0°F)
Connectors	BNC	BNC	Mini phono plug

Input impedance: 1 GΩ
Temperature compensation: manual or automatic from –5.0 to 105.0°C
Memory: up to 100 readings
Recorder output: ±1850.0 mV (proportional to input)
RS-232 specifications: selectable baud rate, stop bit, and parity
Computer requirements: 386 and above that can run Microsoft® Windows® 95 or higher, hard disk with approx 500 KB free disk space, EGA monitor or above, 9-pin serial port connecting cable, mouse.
Printer requirements: accepts serial output as per RS-232 specifications
Output connectors
Recorder: mini-pin (submini phono plug)
RS-232/printer: 9-pin female

Display: backlit alphanumeric LCD, 2 lines, 20 characters
Error messages: diagnose operator error, electrode error, and meter error. Pull-out instruction card decodes message
Operating temperature: 0 to 50°C, noncondensing humidity
Power: 9 VDC, 500 mA; using AC adapter (included); 110 VAC, 60 Hz or 220 VAC, 50 Hz. AC adapter is CSA and UL listed.
Dimensions
Meter: 7.2"D x 9.2"W x 2.5"H (18 x 23 x 6.4 cm)
Boxed: 10"D x 15.5"W x 3.5"H (25 x 39 x 9 cm)
Weight
Meter only: 1.25 lb (0.6 kg); Boxed: 3 lb (1.4 kg)

Ordering Information

Catalog number	Description	Included
WD-35620-22	pH 1100 meter only	Meter, software, detachable electrode stand, and AC adapters
WD-35620-20	pH 1100 meter	Meter, double-junction glass body pH electrode, stainless steel temperature probe, software, detachable electrode stand, and AC adapters

pH/Ion 2100 Meter

Unsurpassed performance with the added flexibility of pH, ORP, or ISE measurements

High resolution: 0.001 pH
High accuracy: ±0.002 pH

Ion concentration mode
- With direct display of ion-selective values in ppm, ppt, or any other units of your choice

Backlit two-line, dot matrix display
- Provides clear instructions for setup, measurement, and calibration

Up to five customizable calibration points
- Choose your own, or select U.S. Standard or NIST buffer sets

Displays last calibration date and time

High/low set point alarms
- Signal readings outside your preset limits

Calibration due alarm
- User-defined interval ensures regularly scheduled recalibration for ISO and GLP compliance

Stores up to 100 readings with date and time into memory
- Store readings either manually or on programmable real-time intervals

Features RS-232 output and free DAS for Windows® software; analog recorder output

Built-in real time clock
- With timer alarm

°C/°F selectable

Manual or automatic temperature compensation (ATC)

Calculates electrode slope and offset automatically

Detachable electrode holder; quick reference instruction card

Top: The pH/Ion 2100 meter shown with built-in electrode stand and handy pull-out instruction card. The electrode stand can be mounted to either side of meter.

Lower left: Use these meters with an optional portable printer to provide you with a printed record of your readings and calibration data.

Lower right: Connect these meters to your PC and download data in a format ideal for importing into spreadsheet software.

Backlit two-line, 20-character display clearly shows measurements, time/date, error messages, and setup prompts to guide the user from step to step.

Use the pH/Ion 2100 meter to document large volumes of critical pH, mV or ion data sets. Meter sends measurements to a printer or PC with the touch of a button, or on timed intervals. Free software allows you to download data to your computer in a format easy to import into spreadsheet software. Advanced setup mode allows you to customize meter parameters.

Compact housing maximizes your valuable benchtop space. Backlit two-line, 20-character dot matrix display shows pH or mV reading plus temperature (°C/°F) or ion plus electrode mV value and current date/time. Includes instruction card that stores underneath meter for quick reference. Includes built-in electrode stand that attaches to either side of the meter.

Applications

Laboratory/Industrial: Use for water quality testing, sewage treatment, soil testing, fertilizer testing, plant tissue testing, food processing (for HACCP compliance), geological testing, and metal plating. Also use in the paper/pulp or pharmaceutical industries. Suitable for most ASTM and EPA test procedures.

ORP: Use with ORP electrode (model 35805-14; order below) to monitor plating operations, ozonation system efficiency, and other redox measurements.

ISE: Use with any of 20 types of ISE electrodes to take direct measurements of ion concentration.

ISO9001:2000 CERTIFIED SUPPLIER CE 3 year warranty

Specifications

Mode	pH	mV or relative mV	Ion	Temperature
Range	–1.000 to 14.000 pH	±1850 mV	0.000 to 19999 concentration units	–5.0 to 105.0°C (23.0 to 221.0°F)
Resolution	0.001 pH or 0.01 pH selectable)	0.1 mV	0.001, 0.01, 0.1, or 1	0.1°C/°F
Accuracy	±0.002 pH or ± 0.01 pH	±0.2 mV	±0.5% of reading	±0.3°C (±0.5°F)
Calibration	Up to five customizable calibration points, or select buffer sets: USA (1.68, 4.01, 7.00,10.01, 12.45); NIST (1.68, 4.01, 6.86, 9.18, 12.45); Bf1 (1.68, 4.01, 7.01, 9.18, 12.45); Bf2 (1.68, 4.01, 6.86, 10.01, 12.45)	Offset up to ±150 mV	Up to five customizable calibration points	Offset up to ±5.0°C (±9.0°F)
Connectors	BNC	BNC	BNC	Mini phono plug

Input impedance: 1 GΩ

Temperature compensation: manual or automatic from –5.0 to 105.0°C

Memory: up to 100 readings

Recorder output: ±1850.0 mV (proportional to input)

RS-232 specifications: selectable baud rate, stop bit, and parity

Computer requirements: 386 and above that can run Microsoft Windows® 95 or higher, hard disk with approx 500 KB free disk space, EGA monitor or above, 9-pin serial port connecting cable, mouse.

Printer requirements: accepts serial output as per RS-232 specifications

Display: backlit alphanumeric LCD, 2 lines, 20 characters

Output connectors
Recorder: mini-pin (submini phono plug)
RS-232/printer: 9-pin female

Error messages: diagnose operator error, electrode error, and meter error. Pull-out instruction card decodes message

Operating temperature: 0 to 50°C, noncondensing humidity

Power: 9 VDC, 500 mA; using AC adapter (included); 110 VAC, 60 Hz or 220 VAC, 50 Hz. AC adapter is CSA and UL listed.

Dimensions
Meter: 7.2"D x 9.2"W x 2.5"H (18 x 23 x 6.4 cm)
Boxed: 10"D x 15.5"W x 3.5"H (25 x 39 x 9 cm)

Weight
Meter only: 1.25 lb (0.6 kg); Boxed: 3 lb (1.4 kg)

Slide-out instruction card with abbreviated keypad functions stores neatly below meter.

Compact, rechargeable portable printer lets you document readings and calibration information (order separately).

Ordering Information

Catalog number	Description	Included
WD-35621-02	pH/Ion 2100 meter only	Meter, software, and AC adapters
WD-35621-00	pH/Ion 2100 meter	Meter, double-junction glass body pH electrode, stainless steel temperature probe, software, and AC adapters

Accessories (for pH 1100 meters also)

WD-35622-00 Portable printer, 110 VAC

WD-35622-05 Portable printer, 220 VAC

WD-35622-59 RS-232 cable, 25 pin (M) to 9 pin (M), connects printer to meter

WD-35615-09 RS-232 cable, 9 pin (M) to 9 pin (F), connects meter to PC

WD-35622-60 Replacement ribbon cartridge

WD-35622-62 Replacement paper roll

pH and ORP Electrodes

WD-35805-04 Replacement pH electrode, double junction, glass body, refillable, 3-ft cable, general-purpose research

WD-35613-05 Replacement temperature probe, 304 stainless steel

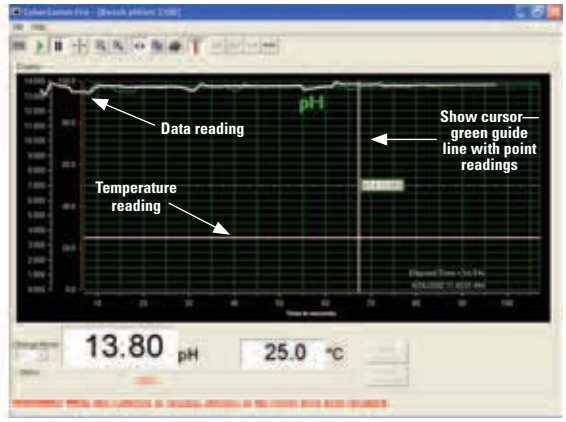
WD-35811-71 "All-in-one" pH electrode/ temperature probe, single junction, epoxy body

WD-35811-72 "All-in-one" pH electrode/ temperature probe, double junction, epoxy body

WD-35805-14 ORP electrode, platinum band, single junction, epoxy body

See pages 30–31 for Ion-selective electrodes

Software Features


Function icons— just one click away.
Data reading
Show cursor— green guide line with point readings
Temperature reading
Mode drop-down menu—for mode changing. (Ion mode available on pH/Ion 2100 only.)
13.80 pH
25.0 °C

pH Calibration Buffer Solutions

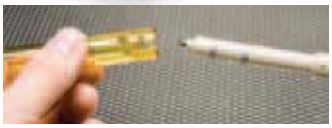
±0.01 pH accuracy at 25°C. Certified to NIST traceable standards.

Catalog number	Description
WD-00654-01	pH 1.68 calibration buffer, one-pint bottle
WD-00654-00	pH 4.01 calibration buffer, one-pint bottle
WD-00654-04	pH 7.00 calibration buffer, one-pint bottle
WD-00654-08	pH 10.00 calibration buffer, one-pint bottle
WD-00654-12	pH 12.45 calibration buffer, one-pint bottle

pH/CON 510 Meter

Measures pH, mV, conductivity, TDS, and temperature—ideal for water quality testing in the lab!

pH/CON 510 meter
35610-10



Unique conductivity probe (included) comes apart for easy cleaning.

Easily toggle between pH, mV, conductivity, and TDS readings

Dual display shows both measured parameter and temperature (°C/°F)
- ▼ Read two parameters at a glance

Easy push-button calibration
- ▼ Five-point calibration for pH and either conductivity or TDS; temperature offset calibration

Advanced setup mode
- ▼ Recalls previous calibration points, pH electrode slope/offset, conductivity/TDS effective cell constants per range, and more

Built-in electrode holder arm
- ▼ Holds electrodes firmly in place

pH auto buffer recognition
- ▼ For fast, easy pH calibration

Selectable auto or manual ranging for conductivity and TDS measurements

Adjustable conductivity-to-TDS conversion factor and temperature coefficient
- ▼ Gives highest accuracy in any solution

Selectable manual or automatic temperature compensation

Selectable automatic endpoint
- ▼ Automatically freezes reading when stable

Hold function, "Ready" indicator, diagnostic error messages

Slide-out instruction card for quick reference

ISO9001:2000 CERTIFIED SUPPLIER CE 3 year warranty meter only

Specifications

Mode	Conductivity	TDS	pH	mV	Temperature
Range	0.00 to 19.99 µS, 0.0 to 199.9 µS, 0 to 1999 µS, 0 to 19.99 mS, 0.0 to 199.9 mS	0.00 to 9.99 ppm, 10.0 to 99.9 ppm, 100 to 999 ppm, 1.00 to 9.99 ppt, 10.0 to 99.9 ppt, 100 to 200 ppt	–2.00 to 16.00 pH	±600 mV	0 to 100°C (32 to 212°F)
Resolution	0.01 µS, 0.1 µS, 1 µS, 0.01 mS, 0.1 mS	0.01 ppm, 0.1 ppm, 1 ppm, 0.01 ppt, 0.1 ppt, 1 ppt	0.01 pH	0.1 mV from ±199.9 mV, 1 mV beyond	0.1°C/°F
Accuracy	±1% full-scale	±1% full-scale	±0.01 pH	±0.2 mV from ±199.9 mV, ±2 mV beyond	±0.5°C/°F
Calibration	One point per range (up to 5)	One point per range (up to 5)	Up to five points (USA: 1.68, 4.01, 7.00, 10.00, 12.45; NIST: 1.68, 4.01, 6.86, 9.18, 12.45)	—	Offset up to ±5°C/°F

Input impedance: $>10^{12}$ Ω
Temperature compensation: selectable manual or automatic from 0 to 100°C
Conductivity cell constant (K): fixed at 1.0
Conductivity temperature coefficient: adjustable from 0.0 to 10.0% per °C
Conductivity-to-TDS conversion factor: adjustable from 0.4 to 1.0
Normalization temperature: adjustable from 15 to 30°C
Display: dual display of pH, mV, conductivity, or TDS with temperature (in °C or °F)

Error messages: diagnose operator error, electrode error, and meter error; pull-out instruction card decodes message.
Operating temperature: 0 to 50°C (32 to 122°F), noncondensing humidity
Power: 9 VDC, 500 mA with AC adapter (included). 110 VAC, 60 Hz or 220 VAC, 50 Hz. AC adapter is CSA/UL listed.
Dimensions
Meter: 9"W x 7"D x 2.375"H (23 x 18 x 6 cm)
Boxed: 15.5"W x 10"D x 3.5"H (39 x 25 x 9 cm)
Weight
Meter only: 1.25 lb (0.6 kg); Boxed: 3 lb (1.4 kg)

Ordering Information

Catalog number	Description	Included
WD-35610-12	pH/CON 510 meter only	Meter, electrode stand, and AC adapters
WD-35610-10	pH/CON 510 meter	Meter, double-junction pH electrode 35641-51, conductivity/temperature probe 35608-50, electrode stand, and AC adapters

Electrode Selection Guide

Double-junction, glass-body, refillable pH electrode 35805-04

The right electrode

While the basic principles of pH measurement are simple, getting an accurate measurement can often be challenging. There are hundreds of applications for pH measurement and each presents different problems. Selecting the right electrode can make the most difficult samples easy to accurately measure.

Gel-filled vs refillable electrodes

Gel-filled electrodes are convenient and easier to maintain than refillable liquid-filled electrodes. However the liquid-filled electrode will provide a faster response. In addition the user can adjust the fill solution to optimize performance, for example adding glycol for better performance at low temperatures.

Glass vs epoxy body electrodes

Glass body electrodes will typically be able to withstand higher, temperatures (100°C as opposed to 80°C for epoxy). In addition, the glass design offers better sealing, fusing glass to glass instead of relying on adhesives. The epoxy body however is less susceptible to breakage. **Note:** Even though the body of an epoxy electrode is plastic, the measuring bulb will still be glass.

Body design

Oakton® offers electrodes in a variety of lengths and diameters. Small diameter probes are ideal for measuring samples in test tubes. Electrodes with wider barrels, greater weight, and longer cable lengths are available for measurements in streams. lakes, or ponds.

Bulb design

Oakton pH electrodes are handblown by experienced craftsmen. The bulb shape can be modified to provide a semi-dome for increased ruggedness, a spear tip for soft penetration applications, or even a flat surface. In addition, the glass formulation can provide increased range.

Reference design

To achieve accurate results, the reference electrode must allow electrolyte solution (or ions, in the case of a gel-filled electrode) to flow into the sample. Depending on the size and material of the junction, this flow rate can be increased or kept to a minimum. Faster flow produces stable readings faster but results in greater service requirements or premature electrode failure.

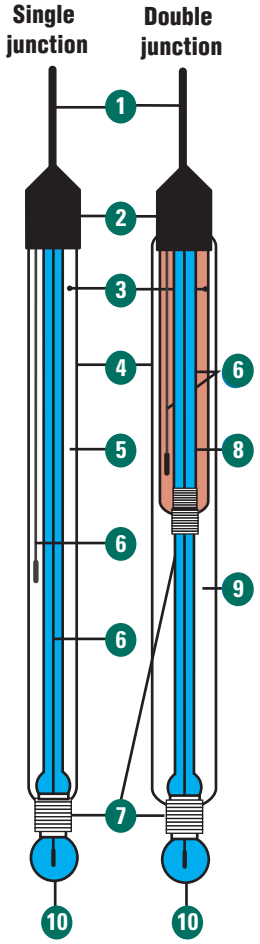
Reference chemistry

The leading cause of electrode failure is reference contamination. The most popular electrodes use a silver chloride (AgCl) reference solution that can react with heavy metals, sulfides, and organics. If your application has any of these contaminants present, be sure to select either a double-junction or calomel electrode. The double-junction electrode uses a second internal reference junction, restricting the AgCl solution to the upper chamber where it is isolated from the sample. The calomel electrode replaces the AgCl with HgCl.

Single-junction, epoxy-body, gel-filled pH electrode 35808-71

Submersible pH electrode 35805-24

ph Electrode Anatomy



1) Cable
2) Cap
3) Fill hole
4) Body—glass or epoxy
5) Outer reference chamber filled with internal fill solution
6) Ag/AgCl wire
7) Annular reference junction allows reference solution to leak
8) Inner reference chamber
9) Outer reference chamber
10) pH sensing bulb

Electrodes for Laboratory and Field Applications

All Oakton® electrodes have a BNC-connected combination reference cell and measuring cell in one housing for easy use

Oakton offers a variety of electrodes for your general-purpose and specialty laboratory applications. The "Application Guide" below provides information to help you find the electrode that best fits your application. Carefully choose the electrode best suited for your application to ensure accurate pH measurements. The guide only offers suggestions—contact your Oakton Technical Product Specialist for more specific recommendations or clarification. Shipping dimensions for all electrodes are 9.25" x 1.75" x 2.75". Shipping weight 0.5 lb each.

Application Guide

Application	Suggested electrode
Drinking water	Standard Ag/AgCl with single junction
Wastewater, solutions with heavy metals	Double junction solutions
Biological samples, proteins, and Tris buffers	Calomel or double junction
Pharmaceuticals	
Low ionic strength samples	Flushable or sleeve-type refillable electrode
Boiler feed water and distilled water	
Soil samples	Soil electrode, double junction
Moist flat surfaces, concrete, cheese, agar, paper, and skin	Flat-surface, calomel
Semisolid samples, food, fruits, cheese, and meat	Spear tip
Nonaqueous samples, solvents, alcohols, viscous samples, slurries, suspended solids, sludges, emulsions and oils, paints, and inks	Sleeve-type, flushable, or double junction electrode and fill with electrolyte containing methanol
Environmental, surface water, neutralization tanks	Double junction submersible

Electrode Types

Built-in temp sensor	Use electrode with the following meters
Standard: Most economical electrode; includes cable.	
No	pHTestr BNC, pH 5/6, Ion 6, pH 10/11/100/110, pH 300/310, pH 500/510, Ion 510, pH 1000/1100/2100/2500, pH/DO 300, pH/CON 300, pH/CON 510, pH 600/610/620, PC600, PD600, PDC650, and non-Oakton meters with BNC pH electrodes
All-in-One: Combination pH electrode/temperature sensor; includes cable.	
Yes	Standard: pH 10/100, pH 500, pH 1000/2500
	Acorn®: pH 5/6, Ion 6, pH 11/110, pH 510, Ion 510, pH 1100/2100
	Waterproof: pH 300/310, pH/CON 300, pH/CON 510
	WP600: pH 600/610/620, PC600, PD600, PCD650
Direct connect: Electrode connects directly to meter; no cable.	
No	pHTestr BNC
ORP: Takes mV readings; includes cable.	
No	Ion 5/6, pH 6, pH 10/100, pH 300/310, pH 500, pH 510, Ion 510, pH 1000/2100/2500, pH/CON 510
ISE: Takes ion-selective readings; includes cable. See pages 40-41 for ISEs	
No	Ion 5/6, pH 10/100, pH 300/310, pH 500, pH/CON 510; pH 510, Ion 510, pH 1000/1100/2100/2500

Use and Care of Electrodes

Handling—Electrodes should be rinsed between samples with distilled or deionized water. Never wipe an electrode—wiping can cause erroneous readings due to static charges. Gently blot the end of the electrode with lint-free paper to remove excess water.

Refillable Electrodes—see page 32 for reference solutions.

The filling solution in refillable electrodes should be filled up to, but not past, the refill hole. Make sure the refill hole is left open when measuring to ensure that the fill solution flows properly through the reference junction.

Storage—see page 29 for storage products.

Always keep your pH electrode moist. We recommend that you store your electrode in an electrode storage solution of 4 M KCl (see page 29). If 4 M KCl is not available, use a pH 4 or 7 buffer solution. **DO NOT** store electrode in distilled or deionized water—this will cause ions to leach out of the glass bulb and reference electrolyte, rendering your electrode useless.

Oakton electrodes are shipped with a protective electrode storage bottle to help prevent cracking or scratching, and to keep the bulb moist. Remove the electrode storage bottle before using your electrode. Keep your electrode in the bottle for long-term storage—just fill the bottle with enough 4 M KCl solution to cover the glass bulb and replenish as needed.

Temperature Probes

Order a temperature probe if you have an electrode without a built-in temperature sensor and you want to take readings with Automatic Temperature Compensation (ATC). Separate temperature probes offer faster temperature response and lower pH electrode replacement cost.

Catalog number	Use with
WD-35615-05	pH 10, pH 100, pH 500, pH 1000, and pH 2500 meters
WD-35613-05	pH 5, pH 6, and Ion 6 Acorn® meters; pH 11, pH 110, pH 510, Ion 510, pH 1100, and pH 2100 benchtop meters
WD-35618-05	pH 300, pH 310, and pH/CON 300 waterproof meters; pH/CON 510 benchtop meter
WD-35418-05	pH 600/610/620, PC600, PD600, PCD650 meters

Electrode storage bottle

All 12-mm dia electrodes come with one electrode storage bottle and solution. Order additional storage bottles as needed.

WD-35805-50 Electrode storage bottle

Single junction, epoxy-body, gel-filled pH electrodes

- ▼ Our most economical electrodes!
- ▼ 0 to 14 pH models available—use for high sodium/high pH solutions

These economical electrodes are ideal for field, clean water, and general-purpose applications. They feature a rugged epoxy housing. Pin-type junction provides low electrolyte flow for long life.

Specifications & Ordering Information

Max temperature: 80°C (except 35801-00: 70°C)
Diameter: 12 mm (except 35804-50: 12.5 mm)

Catalog number	Type*	Cable length
Standard range of 0 to 12 pH		
WD-35801-00	Standard	3 ft
WD-35801-71	All-in-One Standard	30"
WD-35811-71	All-in-One Acorn®	30"
WD-35808-71	All-in-One Waterproof	30"
WD-35816-71	All-in-One WP600	30"
WD-35804-00	Direct connect	No cable
High range of 0 to 14 pH		
WD-35805-05	Standard	3 ft
WD-35801-76	All in One	30"

Double junction, epoxy-body, gel-filled pH electrodes

- ▼ Use to test dirty water and for other rugged field applications
- ▼ 0 to 14 pH models available—use for high sodium/high pH solutions

Ideal for most applications, including dirty field water and solutions with heavy metals or organics. Pin-type junction provides low electrolyte flow for long life.

Specifications & Ordering Information

Max temperature: 80°C **Diameter:** 12 mm

Catalog number	Type*	Cable length
Standard range of 0 to 12 pH		
WD-35805-01	Standard	3 ft
WD-35641-51	Standard, poly-gel	3 ft
WD-35801-72	All-in-One Standard	30"
WD-35811-72	All-in-One Acorn	30"
WD-35808-72	All-in-One Waterproof	30"
WD-35816-72	All-in-One WP600	30"
WD-35804-02	Direct connect	No cable
High range of 0 to 14 pH		
WD-35805-06	Standard	3 ft
WD-35801-77	All-in-One Standard	30"

Double junction, glass-body, refillable pH electrodes

- ▼ Use for high-grade laboratory applications

These laboratory-grade electrodes are ideal for testing dirty water and solutions with heavy metals or organics. Annular-type junction provides faster electrode response. Order replacement electrode fill solution on page 29.

Specifications & Ordering Information

Max temperature: 100°C **Diameter:** 12 mm

Catalog number	Type*	Cable length
Standard range of 0 to 12 pH		
WD-35805-04	Standard	3 ft
WD-35801-74	All-in-One Standard	3 ft
High range of 0 to 14 pH		
WD-35805-08	Standard	3 ft
WD-35801-79	All-in-One Standard	3 ft
WD-35811-74	All-in-One Acorn	3 ft

Double junction, epoxy-body, refillable pH electrodes

- ▼ Features flushable Teflon® junction—use with substances that ordinarily clog standard electrodes

Ideal for testing dirty water, slurries, oils, paints, pastes, low ionic strength solutions, and solutions with heavy metals or organics. Flushable annular junction lets you refresh junction by pressing electrode cap—cleans clogs instantly.

Specifications & Ordering Information

Range: 0 to 12 pH **Max temperature:** 80°C **Diameter:** 12 mm

Catalog number	Type*	Cable length
WD-35805-09	Standard	3 ft
WD-35801-80	All-in-One Standard	3 ft

Glass-body, spear-tip pH electrodes

- ▼ Test gels, semisolids, and plant or animal materials

Spear tip feature is ideal for testing semisolids. Choose single or double junction electrodes; both have an annular-type junction for faster electrode response.

Specifications & Ordering Information

Range: 0 to 12 pH **Max temperature:** 100°C **Diameter:** 12 mm OD, 8 mm tip

Catalog number	Type*	Junction	Cable length
WD-35805-18	Standard	Double	3 ft
WD-35804-06	Standard	Single	3 ft

*See "Electrode Types" chart on facing page.

Electrodes for Laboratory and Field Applications

Submersible pH electrodes

▼ Completely submersible up to 9 feet

These ABS plastic electrodes are ideal for field applications. Use double junction for testing dirty water and solutions with heavy metals or organics. Completely submersible—including the extra-long 10-ft cable. Annular junction provides fast response and resists pressure effects of submersion.

Specifications & Ordering Information

Range: 0 to 12 pH **Max temperature:** 80°C **Diameter:** 25 mm

Catalog number	Type*	Junction	Cable length
WD-35805-24	Standard	Double	10 ft
WD-35801-85	All-in-One	Double	10 ft
WD-35805-23	Standard	Single	10 ft
WD-35805-25	ORP	Single	10 ft

Epoxy-body ORP electrodes

▼ Use to take mV readings

Choose a single-junction electrode for field, clean water, and general-purpose applications; choose a double junction electrode for most applications including field, dirty water, heavy metals, and organics. Both models have a pin-type junction that provides low electrolyte leakage. Use the gold disk sensor for ozone applications.

Specifications & Ordering Information

Range: ±2000 mV

Max temperature: 80°C (except 35805-13: 70°C) **Diameter:** 12 mm

Catalog number	Type*	Junction	Cable length
Platinum band sensor			
WD-35805-13	Standard	Single	3 ft
WD-35805-15	Standard	Double	3 ft
Gold disk sensor			
WD-35805-27	Standard	Double	3 ft

Electrode storage bottle

All 12-mm dia electrodes come with one electrode storage bottle and solution. Order additional storage bottles as needed.

WD-35805-50 Electrode storage bottle

Small-diameter pH electrodes

▼ Ideal for measurements in test tubes, NMR tubes, and other applications where space is limited

These electrodes feature a diameter from 6 to 9 mm—ideal for test tube applications. Replacement electrode fill solution for refillable electrodes is available on facing page.

Specifications & Ordering Information

Range: 0 to 12 pH

Max temperature: 80°C epoxy body or 100°C glass body

Catalog number	Type*	Junction	Dia x L	Cable length
Epoxy-body electrodes, sealed				
WD-35805-22	Standard	Single	6 x 220 mm	3 ft
WD-35804-01	Direct connect	Single	9 x 100 mm	No cable
WD-35804-03	Direct connect	Double	9 x 100 mm	No cable
Epoxy-body electrodes, refillable				
WD-35804-05	Direct connect	Double	9 x 100 mm	No cable
Glass-body electrodes, refillable				
WD-35805-21	Standard	Double	8 x 325 mm	3 ft

Calomel pH electrodes

▼ Calomel reference solution is ideal for biotechnology applications with organics, proteins, Tris buffers, or metals

These electrodes use a Hg/Cl reference to withstand solutions that react with the silver typically used in pH reference electrodes. Ideal for solutions containing organics. Choose from pin or annular junction. Pin-type junction provides low electrolyte flow for long life. Annular-type junction provides faster electrode response. Replacement electrode fill solution for refillable electrodes is available on facing page.

Specifications & Ordering Information

Range: 0 to 12 pH **Max temperature:** 70°C **Diameter:** 12 mm

Catalog number	Type*	Cable length
Epoxy-body electrodes, gel-filled, pin junction		
WD-35805-10	Standard	3 ft
WD-35801-81	All-in-One Standard	3 ft
WD-35804-09	Direct connect	No cable
Glass-body electrode, gel-filled, annular junction		
WD-35805-11	Standard	3 ft
Glass-body electrodes, liquid-filled, refillable, annular junction		
WD-35805-12	Standard	3 ft
WD-35801-82	All-in-One Standard	3 ft
WD-35804-69	Direct connect	3 ft

*See "Electrode types" chart on page 28.

Flat surface, single-junction pH electrodes

▼ Ideal for flat surface measurements such as paper or skin

These single-junction electrodes are available with sealed epoxy body, or refillable glass body. Replacement electrode fill solution for refillable electrode is available on facing page.

Specifications & Ordering Information

Range: 0 to 12 pH
Max temperature: 80°C epoxy body or 100°C glass body **Diameter:** 12 mm

Catalog number	Type*	Cable length
Epoxy-body electrodes, sealed		
WD-35805-19	Standard	3 ft
WD-35804-10	Direct connect	No cable
Glass-body electrode, refillable		
WD-35805-20	Standard	3 ft

Semi-dome, epoxy-body, gel-filled pH electrodes

▼ Rugged semi-dome bulb design

Special close-knit ceramic junction prevents back diffusion problems and resists clogging. Vortexing junction design enhances electrolyte flow and self-cleans in flowing applications. Epoxy body; polymer gel reference fill won't break down over time, enhancing electrode performance and longevity.

Specifications & Ordering Information

Range: 0 to 13 pH **Max temperature:** 100°C **Diameter:** 12 mm

Catalog number	Type*	Junction	Cable length
WD-35808-88	All-in-One Waterproof	Single	3 ft
WD-35808-89	All-in-One Waterproof	Double	3 ft

Polymer gel, single-junction pH electrode

▼ Polymer gel reference fill won't break down over time, enhancing electrode performance and longevity

Specifications & Ordering Information

Range: 0 to 13 pH **Max temperature:** 100°C **Diameter:** 12 mm

Catalog number	Type*	Cable length
WD-35808-90	All-in-One Waterproof	3 ft

Sleeve-type, single-junction, refillable pH electrode

▼ Ideal for viscous liquids and low ionic strength samples

Sleeve design gives high electrolyte flow. Unique reference design and fill solution minimize drift and give excellent performance at high temperatures.

Specifications & Ordering Information

Range: 0 to 12 pH **Max temperature:** 100°C **Diameter:** 12 mm

Catalog number	Type*	Cable length
WD-35805-26	Standard	3 ft

*See "Electrode Types" chart on page 28.

Oakton® Electrode Care

▼ Extend the life of your electrode, increase speed of response, and get accurate readings

▼ Solutions to clean, store, and fill electrodes

WD-00653-04 pH electrode storage solution, one pint. Use with saver bottles; keep bulb moist for quicker, more accurate pH readings

WD-00653-06 pH/ORP electrode cleaning solution, one pint. Removes build-up from electrodes to maintain bulb sensitivity

00653-06

WD-35805-50 Replacement pH electrode saver bottle. For pH electrodes up to 12 mm dia. 44.5 mm H x 25.4 mm dia

00653-04

WD-35803-73 Reference fill solution for single junction pH electrodes. 4 M KCl saturated with AgCl, 125 mL

WD-35803-74 Reference fill solution for double junction or calomel reference refillable pH electrodes. 4 M KCl, 125 mL

WD-35803-83 Reference fill solution, lithium chloride (LiCl)/methanol, for double junction refillable pH electrodes. Use where organics are present. 125 mL

WD-35803-84 Reference fill solution, KCl with glycerol, for double junction refillable pH electrodes. Use for low-temperature samples. 125 mL

35805-50

Accessories

WD-35820-64 In-line threaded housing. Use to install any 12-mm diameter electrode into pipe for in-line use or submersible monitoring; ¾" NPT(M), nylon

Ion-Selective Electrodes and Solution Kits

Ion-Selective Electrodes

Oakton® has a large selection of ion-selective electrodes (ISEs) to suit a wide variety of applications. Each electrode has a typical response time of 20 to 30 seconds but will vary with solution concentration. Oakton offers four electrode types: membrane, solid-state, gas sensing, and glass bulb. Gas sensing electrodes also include replacement membranes.

Choose from single-junction or double-junction electrodes. Single-junction electrodes are ideal for clean water applications. Use double-junction electrodes for testing dirty water and solutions with heavy metals or organics. All electrodes are refillable and include 15 mL of electrolyte and a filling pipette. Solid-state electrodes also include polishing strips.

Use these ion-selective electrodes (ISEs) with:

Ion 510 benchtop meter (see page 20)

pH/Ion 2100 benchtop meter (see page 22)

Acorn® Ion handheld meters (see page 12)

Or use with any other ion meter, or with any meter with 0.1-mV resolution.

Epoxy-body, double-junction fluoride electrode 35812-18

Ordering Information

Ion	Electrodes			Solution Kits†			
	Epoxy body, single junction	Epoxy body, double junction	Glass body, double junction	Single-junction solution kit	Double-junction solution kit	Replacement calibration standard	Replacement ISA
Ammonia NH_3 High-purity power station water, fish tanks, sea water, wastewater, plating baths, air/stack gases, and biological samples. **Range:** 17,000 to 0.01 ppm **Type:** gas sensing	WD-35802-00	—	—	WD-35802-50*	—	WD-35803-01	—
Ammonium NH_4^+ Boiler feed water, natural water and fertilizers. User must supply calibration standard. **Range:** 18,000 to 0.1 ppm **Type:** polymer membrane	WD-35802-02	WD-35812-02	WD-35802-03	WD-35802-52	WD-35802-53	—	WD-35803-53
Bromide Br^- Water, wine, soil, plant tissue, blood electrolytes, and clinical analysis. **Range:** 79,000 to 0.4 ppm **Type:** solid-state	WD-35802-04	WD-35812-04	WD-35802-05	WD-35802-54	WD-35802-55	WD-35803-03	WD-35803-51
Cadmium Cd^{+2} Plating baths. User must supply calibration standard. **Range:** 11,200 to 0.01 ppm **Type:** solid-state	WD-35802-06	WD-35812-06	WD-35802-07	WD-35802-56	WD-35802-57	—	WD-35803-51
Calcium Ca^{+2} Water softening systems, boiler feed water, drinking/ mineral water, blood electrolytes, clinical analysis, and food applications. **Range:** 40,000 to 0.2 ppm **Type:** polymer membrane	WD-35802-08	WD-35812-08	WD-35802-09	WD-35802-58	WD-35802-59	WD-35803-05	WD-35803-52
Carbon Dioxide CO_2 and Carbonate CO_3^{-2} Soft drinks/carbonated beverages, wine, beer, fermentation processes, bacterial cultures. **Range:** 440 to 4.4 ppm **Type:** gas sensing	WD-35802-10	—	—	WD-35802-60	—	WD-35803-07	WD-35803-55
Chloride Cl^- River/tap water, plant tissue, soils, boiler feed water, blood electrolytes,clinical analysis, sweat, urine, cement, plating baths, and food samples. **Range:** 35,500 to 1.8 ppm **Type:** solid-state	WD-35802-12	WD-35812-12	WD-35802-13	WD-35802-62	WD-35802-63	WD-35803-09	WD-35803-51
Copper Cu^{+2} Plating baths and water **Range:** 6350 to 6.4 x 10^{-4} ppm **Type:** solid-state	WD-35802-14	WD-35812-14	WD-35802-15	WD-35802-64	WD-35802-65	WD-35803-11	WD-35803-51
Cyanide CN^- Plating baths, wastewater and plant tissue. User must supply calibration standard. **Range:** 260 to 0.13 ppm **Type:** solid-state	WD-35802-16	WD-35812-16	WD-35802-17	—	—	—	WD-35803-50
Fluoride F^- Drinking/natural water, wastewater, air/stack gases, acids, sea water minerals, soils, food, biological fluids, toothpaste/mouthwash, coal, carbonated beverages, and bone. **Range:** saturated to 0.02 ppm **Type:** solid-state	WD-35802-18	WD-35812-18	WD-35802-19	WD-35802-68	WD-35802-69	WD-35803-13	WD-35803-58

*Ammonia solution kit does not include ISA. †Contact your authorized Oakton Distributor for replacement electrolyte solutions.

Solution Kits

Be sure to select both the electrode and solution kit to complete your measurement system. Solution kits contain the solutions and accessories needed for calibration, sample preparation, and measurement of ion concentration and activity. All solutions are supplied with MSDS (Material Safety Data Sheet) and have a value of 1000 ppm. Make serial dilutions for lower values using the ISE labware kit 35613-60 (at right). Solution kits include replacement reference electrolyte, ISA (ionic strength adjustor)*, calibration standard, and filling pipette. Solution kits for solid-state electrodes also include polishing strips. Solution kits for gas sensing electrodes also include replacement membranes.

ISE Labware Kit

Kit contains beakers, volumetric flask, pipette, and pipette bulb needed for serial dilution of ISE standards and ISA additions.

WD-35613-60 ISE labware kit

Ordering Information

Ion	Electrodes			Solutions†			
	Epoxy body, single junction	Epoxy body, double junction	Glass body, double junction	Single-junction solution kit	Double-junction solution kit	Replacement calibration standard	Replacement ISA
Fluoroborate BF_4^- Plating baths (boron analysis) **Range:** 10,800 to 0.1 ppm **Type:** polymer membrane	WD-35802-20	WD-35812-20	WD-35802-21	WD-35802-70	WD-35802-71	WD-35803-15	WD-35803-60
Iodide I^- Milk, feeds, plants and pharmaceuticals. **Range:** 127,000 to 6 x 10^{-3} ppm **Type:** solid-state	WD-35802-22	WD-35812-22	WD-35802-23	WD-35802-72	WD-35802-73	WD-35803-17	WD-35803-51
Lead Pb^{+2} Plating baths and organic compounds. **Range:** 20,700 to 0.2 ppm **Type:** solid-state	WD-35802-24	WD-35812-24	WD-35802-25	WD-35802-74	WD-35802-75	WD-35803-20	WD-35803-56
Nitrate NO_3^- Surface/drinking water, sewage effluent, soil extracts, fertilizers, plant tissue, meat, potatoes, spinach, beets, baby food. **Range:** 62,000 to 0.5 ppm **Type:** polymer membrane	WD-35802-30	WD-35812-30	WD-35802-31	WD-35802-78	WD-35802-79	WD-35803-24	WD-35803-60
Nitrogen Oxide NO_x Air and stack gases. **Range:** 220 to 0.2 ppm **Type:** gas sensing	WD-35802-32	—	—	WD-35802-82	—	WD-35803-26	WD-35803-57
Perchlorate ClO_4^- Explosives and solid propellants. **Range:** 98,000 to 0.7 ppm **Type:** polymer membrane	WD-35802-34	WD-35812-34	WD-35802-35	WD-35802-84	WD-35802-85	WD-35803-28	WD-35803-60
Potassium K^+ Wastewater, river/tap water, blood electrolytes, clinical analysis, saliva, serum, fertilizers, soils, and wines. **Range:** 39,000 to 0.04 ppm **Type:** polymer membrane	WD-35802-38	WD-35812-38	WD-35802-39	WD-35802-88	WD-35802-89	WD-35803-30	WD-35803-53
Silver/Sulfide Ag^+/S^{-2} Sewage effluent, soils, sediments, plating baths and photographic fixing solution. User must supply solutions for sulfide. **Range:** 107,900 to 0.01 ppm **Type:** solid-state	WD-35802-40	WD-35812-40	WD-35802-41	WD-35802-90	WD-35802-91	WD-35803-32	WD-35803-51
Sodium Na^+ Steam condensates in power plants, blood electrolytes, clinical analysis, serum, foods, wine, glass, sea water, swimming pools, fish farms and aquariums. **Range:** 23,000 to 0.2 ppm **Type:** glass bulb	WD-35802-42	WD-35812-42	WD-35802-43	WD-35802-92	WD-35802-93	WD-35803-34	WD-35803-54
Surfactant X^+, X^- Detergents, dishwashing liquids, cleaning supplies, and food products. For titration only. **Range:** 12,000 to 1.0 ppm **Type:** polymer membrane	WD-35802-44	WD-35812-44	WD-35802-45	WD-35802-94	WD-35802-95	WD-35803-35	WD-35803-59
Water hardness Ca^{+2}, Mg^{+2} Water softening systems, boiler feed water, drinking/mineral water, blood electrolytes, clinical analysis, and food applications. **Range:** 40,000 to 0.4 ppm **Type:** polymer membrane	WD-35802-48	WD-35812-48	WD-35802-49	WD-35802-98	WD-35802-99	WD-35803-05	WD-35803-52

*Ammonia solution kit does not include ISA. †Contact your authorized Oakton Distributor for replacement electrolyte solutions.

pH Buffer Solutions

Labeled with pH vs temperature tables for accurate calibration reference

Economical one-pint buffer solution bottles are freshness dated, and standardized against NIST-certified references to ensure quality. Bottles are labeled with the name and CAS number for all ingredients (for "Right-to-Know" requirements). The high-accuracy solutions are ideal for pH meters with 0.001 resolution.

00654-00

Ordering Information

Catalog number	Description	Accuracy at 25°C
WD-00654-01	Buffer solution, pH 1.68	±0.01 pH
WD-00654-00	Buffer solution, pH 4.01	±0.01 pH
WD-00654-04	Buffer solution, pH 7.00	±0.01 pH
WD-00654-08	Buffer solution, pH 10.00	±0.01 pH
WD-00654-12	Buffer solution, pH 12.45	±0.01 pH
WD-05942-26	High-accuracy solution, pH 4.000	±0.002 pH
WD-05942-46	High-accuracy solution, pH 7.000	±0.002 pH
WD-05942-66	High-accuracy solution, pH 10.000	±0.005 pH

pH "Singles" Buffer Pouches

Convenient and accurate

Single-use, air-tight pouches with high-precision calibration standards. All are freshness dated, and standardized against NIST-certified references to ensure quality. Accuracy is ±0.01 pH at 25°C. Each box contains twenty 20-mL pouches.

Freshness-dated Singles ensure more accurate results.

Ordering Information

Catalog number	Description
WD-35653-01	"Singles" pH 4.01
WD-35653-02	"Singles" pH 7.00
WD-35653-03	"Singles" pH 10.00
WD-35653-00	"Singles" deionized rinse water pouches
WD-35653-04	"Singles" assortment; five each of pH 4.01, 7.00,10.00, and rinse water

Precision pH/mV Simulator

Ideal for testing benchtop or handheld meters, controllers, and transmitters!

Simulate any of following pH values: 1.00, 1.68, 4.01 6.86, 7.00, 9.18, 10.01 and 12.45; and any of following mV values: –1800, –900, –390, 390, 900, and 1800.

Ordering Information

Catalog number	Description	Includes
WD-35652-00	pH/mV simulator	Simulator, protective rubber boot, 3-ft cable with BNC connectors, and batteries

pH Electrode Care Solutions

Extend the life of your electrode!

Use these solutions to extend the life of your electrode, increase speed of response, and get accurate readings. Electrodes should be cleaned or rinsed between sampling. Always keep your electrode moist by storing it in a solution when not in use. When adding fill solution, fill up to, but not past, the refill hole.

00653-06

00653-04

Ordering Information

Catalog number	Description
WD-00653-06	pH/ORP electrode cleaning solution, one pint. Removes buildup from electrodes to maintain bulb sensitivity.
WD-00653-04	pH electrode storage solution, one pint. Use with storage bottle (sold separately below table); keep bulb moist for quicker, more accurate pH readings.
WD-35803-73	Reference fill solution for single-junction pH electrodes. 4M KCl saturated with AgCl, 125 mL
WD-35803-74	Reference fill solution for double-junction or calomel reference refillable pH electrodes. 4M KCl, 125 mL
WD-35803-83	Reference fill solution, Lithium chloride (LiCl)/methanol, for double-junction refillable pH electrodes. Use where organics are present. 125 mL
WD-35803-84	Reference fill solution, KCl with glycerol, for double-junction refillable pH electrodes. Use for low-temperature samples. 125 mL

WD-35805-50 Electrode storage bottle accepts one electrode up to 12-mm dia

Portable Printer

Use with pH 1100 and pH/ION 2100 meters

Create permanent records of your data from Oakton® meters with RS-232 output! This printer's compact size and rechargeable battery pack make it the perfect printer for both field use and crowded benchtop space. Pre-configured setup selections match the exact parameters of your meter. Printer accepts standard-sized adding machine rolls and printer ribbons; order separately below table.

Ordering Information

Catalog number	Description	Power
WD-35622-00	Portable printer	110 VAC
WD-35622-05		220 VAC

WD-35622-59 Printer cable, connects printer to your pH 1100 or pH/ION 2100 meter (or other meters with RS-232 output)

WD-35622-60 Replacement ribbon cartridge

WD-35622-62 Replacement paper roll

TDSTestr®, ECTestr™, and SaltTestr™ Selection Guide

Get Better Accuracy. Oakton Instruments offers the only TDS and conductivity Testrs with ±1% full-scale accuracy. This is the best accuracy available on any pocket-sized Total Dissolved Solids or Conductivity meter. This can make a tangible difference for your application.

A Good Value. You also want a good value when it comes to pocket-sized instruments. Our drive for quality and durability for our TDSTestrs and ECTestrs is what inspires us to do the extra things that may not even be readily apparent. From our use of custom thermoplastic housing materials that offer superior chemical and temperature durability, to our self-diagnostic error messages to help you immediately troubleshoot calibrations, batteries and sensors. Or, our application-specific micro-processors that deliver superior instrument reliability. All of these things combine to give you a superior product that delivers long-term value.

Lots of Options. Oakton Instruments also gives you options offered by no one else. We offer pocket-sized TDS and EC Testrs that measure across many ranges. We also offer a series of testers that include built-in sample cup sensors, and selectable °C/°F temperature readout, a specially designed tester for sodium chloride solutions, and a series of traditional "dip and read" meters.

More for Your Money. Better accuracy and a higher-quality product featuring more options. You get it all with the Oakton TDSTestrs, ECTestrs, and SaltTestr.

Use this chart to find the best Testr for your application

Model Catalog number	Range	Resolution	Accuracy	Calibration	Waterproof housing	Temperature readout	Replaceable sensor	Adjustable TDS factor
TDSTestr 11 Series (see page 34)								
TDSTestr 11 dual-range WD-35662-10	0 to 1999 ppm; 0 to 10.00 ppt	1 ppm; 0.01 ppt	±1% full-scale	Three-point, manual	Yes	°C/°F	Yes	Yes
TDSTestr 11+ multirange WD-35662-15	0 to 199.9 ppm, 0 to 1999 ppm; 0 to 10.00 ppt	0.1 ppm, 1 ppm; 0.01 ppt	±1% full-scale	Two-point, manual	Yes	°C/°F	Yes	Yes
ECTestr 11 Series (see page 35)								
ECTestr 11 dual-range WD-35662-30	0 to 1990 µS; 0 to 19.90 mS	10 µS; 0.10 mS	±1% full-scale	Two-point, manual or auto	Yes	°C/°F	Yes	—
ECTestr 11+ multirange WD-35662-35	0 to 199.9 µS, 0 to 1999 µS; 0 to 19.99 mS	0.1 µS, 1 µS; 0.01 mS	±1% full-scale	Two-point, manual or auto	Yes	°C/°F	Yes	—
SaltTestr 11 (see page 36)								
SaltTestr 11 WD-35662-52	0 to 10.00 ppt	0.01 ppt	±1% full-scale up to 7.00 ppt, ±3% full-scale above 7.00 ppt	One-point, push-button	Yes	°C/°F	Yes	—

TDSTestr® 11 Series

Now with multirange capability—pure water to concentrated solutions with one meter

New

Large, easy-to-read display
▼ Two-line display—units, measurement status, and battery life indicators

Replaceable electrodes
▼ Reuse the meter body to save money

Temperature readout
▼ Simultaneous display in °C or °F

Full reading displayed
▼ No need to multiply the readout to obtain actual test values

Adjustable TDS factor
▼ 0.4 to 1.0 gives better accuracy

Push-button calibration
▼ Calibrate your tester more precisely than trimpot adjustment—no screwdrivers necessary

Hold function; Auto shut-off

Waterproof, dustproof housing
▼ Meets IP67 ratings—plus, it floats!

Automatic temperature compensation (ATC)
▼ Gives you accurate measurements even with fluctuating temperatures

TDSTestr 11+ features:
▼ Operate as either cup-style or dip-style tester for greater flexibility

Above top: Replaceable sensor saves you money

Above bottom: Calibration buttons tucked away in battery compartment to avoid accidental recalibration

35662-10

35662-15

Above top, bottom: TDSTestr 11+ operates as either a dip-style or cup-style instrument for small samples or holding under running water

ISO 9001:2000 CERTIFIED SUPPLIER CE 1 year warranty

Specifications

Mode	TDSTestr 11 dual-range	TDSTestr 11+ multirange
Range	0 to 2000 ppm; 0 to 10.00 ppt	0 to 200 ppm, 0 to 2000 ppm; 0 to 10.00 ppt
Resolution	1 ppm; 0.01 ppt	0.1 ppm, 1 ppm; 0.01 ppt
Accuracy	±1% full-scale	±1% full-scale
Calibration standard range	20.0 to 199.9 ppm, 200 to 1999 ppm; 2.0 to 10.00 ppt	300 to 1990 ppm; 3 to 10.00 ppt
Calibration	3-point, manual	2-point, manual

Temperature display: 0 to 50°C (32 to 122°F), 0.1°C resolution, ±0.5°C accuracy

Operating temperature: 0 to 50°C (32 to 122°F)

Temperature compensation: automatic (ATC) from 0 to 50°C (32 to 122°F)

ATC coefficient: 2% per °C, 1.11% per °F, 25°C reference temperature

Wetted materials: 316 stainless steel (electrodes) and HDPE/Valox® housing

Power and battery life: four 1.5 V alkaline batteries Eveready A76BP (included), 100 hrs continuous use (approx 600 tests per battery pack). Alternate replacement model Eveready 357BP silver oxide, 140 hrs continuous use.

Dimensions
Unit only: 6.5"L x 1.5" dia (165 x 38 mm)
Boxed: 7.25" x 2.75" x 1.87" (184 x 70 x 48 mm)

Weight
Unit only: 3.25 oz (90 g); Boxed: 6.0 oz (170 g)

Applications

TDSTestr 11

Low range: Measure TDS in natural water. Verify reverse osmosis systems and tap water quality. Check nutrient solution concentration for hydroponics.

High range: For measuring TDS in salt water, wastewater, cooling tower water, and boiler condensate. Check nutrient solution concentration in hydroponics applications. Measure salinity for ponds and recirculating systems. Check saline and chemical levels in pools and spas.

TDSTestr 11+

Ultra-low range: ideal for measuring TDS or conductivity (µS) in distilled water, natural water, **drinking** water and reverse osmosis systems.

Low range: Use for measuring TDS or conductivity (µS) in natural water. Verify reverse osmosis system operation and tapwater quality. Check nutrient solution concentration in hydroponics applications.

High range: Use for measuring TDS or conductivity (mS) in salt water, wastewater, cooling tower water, and boiler condensate. Check nutrient solution concentration in hydroponics applications. Measure salinity in ponds and recirculating systems. Check saline and chemical levels in pools and spas.

Ordering Information

Catalog number	Description	Includes
WD-35662-10	TDSTestr 11 dual-range	Protective plastic storage case, lanyard, and batteries
WD-35662-15	TDSTestr 11+ multirange	

Accessories

WD-35661-17 Replacement electrode for TDSTestr 11

WD-35661-08 Replacement electrode for TDSTestr 11+

WD-35624-45 Vinyl carrying case with belt loop; holds one tester and solution pouches

WD-09377-16 Replacement batteries, 1.5 V. Pack of 6

WD-35661-70 Deluxe calibration kit includes two each calibration pouches (447 µS, 1413 µS, 2764 µS, 15,000 µS, and rinse water), sample jar, and foam-lined hard plastic carrying case. (Tester not included)

ECTestrs™ 11 Series

New

Auto-ranging for maximum resolution

Large, easy-to-read display
▼ Two-line display—units, measurement status, and battery life indicators

±1% full-scale accuracy
▼ The best in its class!

Waterproof, dustproof housing
▼ Meets IP67 ratings, plus—it floats!

Replaceable electrode
▼ Reuse same meter body over and over

Push-button calibration
▼ Calibrate more precisely than trimpot adjustment—no screwdrivers needed

Hold function
▼ Freezes reading until you can record it

Auto shut-off
▼ Saves your batteries

Full reading displayed
▼ No need to multiply the readout to obtain actual test values

Temperature readout
▼ Dual-display for readings at a glance

Automatic temperature compensation (ATC)
▼ Gives you accurate readings even with fluctuating temperatures

ECTester 11+ features:
▼ Operate as either cup-style or dip-style tester for greater flexibility

Above: Convenient soft vinyl belt-loop carrying case 35624-45 keeps tester handy

Above, top right: Calibration button tucked away in battery compartment to avoid accidental recalibration

Above, bottom right: Replaceable electrodes extend tester life and save you money

Right: Features cup-style sensor—draw or grab samples anywhere!

35662-30

35662-35

ISO9001:2000 CERTIFIED SUPPLIER CE 1 year warranty

Specifications

Mode	ECTestr 11 dual-range	ECTestr 11+ multirange
Range	0 to 2000 µS; 0 to 20.00 mS	0 to 200.0 µS, 0 to 2000 µS; 0 to 20.00 mS
Resolution	10 µS; 0.10 mS	0.1 µS, 1 µS; 0.01 mS
Accuracy	±1% full-scale	±1% full-scale
Calibration standard range	300 to 1990 µS; 3 to19.90 mS	20.0 to 199.9 µS, 200 to 199.9 µS; 2.0 to 19.99 mS
Calibration	2-point, manual or auto (1413 µS; 12.88 mS)	3-point, manual or auto (84 µS, 1413 µS; 12.88 mS)

Temperature display: 0 to 50°C (32 to 122°F), 0.1°C resolution, ±0.5°C accuracy
Operating temperature: 0 to 50°C (32 to 122°F)
Temperature compensation: automatic (ATC) from 0 to 50°C (32 to 122°F)
ATC coefficient temperature: 2% per °C, 25°C reference
Wetted materials: 316 stainless steel (electrodes) and Valox® housing
Power and battery life: four 1.5 V alkaline batteries Eveready A76 (included), 100 hrs continuous use (approx 600 tests per battery pack). Alternate replacement model LR44.
Dimensions
Unit only: 6.5"L x 1.5" dia (165 x 38 mm)
Boxed: 7.25" x 2.75" x 1.87" (184 x 70 x 48 mm)
Weight
Unit only: 3.25 oz (90 g); Boxed: 6.0 oz (170 g)

Applications

ECTestr 11

Low range: Use for measuring conductivity (µS) in natural water. Verify reverse osmosis system operation and tap water quality. Check nutrient solution concentration in hydroponics applications.
High range: For measuring conductivity (µS) in salt water, wastewater, cooling tower water, and boiler condensate. Check nutrient solution concentration in hydroponics applications. Measure salinity for ponds, recirculating systems. Check saline, chemical levels in pools and spas.

ECTestr 11+

Ultra-low range: Ideal for measuring TDS or conductivity (µS) in distilled water, natural water, drinking water, and reverse osmosis systems.
Low range: Use for measuring TDS or conductivity (µS) in natural water. Verify reverse osmosis system operation and tap water quality. Check nutrient solution concentration in hydroponics applications.
High range: Use for measuring TDS or conductivity (mS) in salt water, wastewater, cooling tower water, and boiler condensate. Check nutrient solution concentration in hydroponics applications. Measure salinity in ponds and recirculating systems. Check saline and chemical levels in pools and spas.

Ordering Information

Catalog number	Description	Includes
WD-35662-30	ECTestr 11 dual-range	Protective plastic storage case, lanyard, and batteries
WD-35662-35	ECTestr 11+ multirange	

Accessories

WD-35661-17 Replacement electrode for ECTestr 11

WD-35661-08 Replacement electrode for ECTestr 11+

WD-35624-45 Vinyl carrying case with belt loop; holds one tester and solution pouches

WD-09377-16 Replacement batteries, 1.5 V. Pack of 6

WD-35661-70 Deluxe calibration kit includes two each calibration pouches (447 µS, 1413 µS, 2764 µS, 15,000 µS, and rinse water), sample jar, and foam-lined hard plastic carrying case. (Tester not included)

SaltTestr™ 11

Non-linear curve programmed for best results in testing NaCl in water applications

New

35662-52

Soft vinyl belt-loop carrying case 35624-45 keeps tester handy

Calibration button tucked away in battery compartment to avoid accidental recalibration

Replaceable electrodes extend tester life and save you money

Factory calibrated against NaCl standards
▼ Ideal for testing salinity levels in pools

±1% full-scale accuracy
▼ The best in its class!

Waterproof, dustproof housing
▼ Meets IP67 ratings, plus—it floats!

Replaceable electrode
▼ Reuse same meter body over and over again

Push-button calibration
▼ Calibrate more precisely than trimpot adjustment—no screwdrivers necessary

Hold function
▼ Freezes reading until you can log it

Auto shut-off
▼ Saves your batteries

Temperature display
▼ Selectable for °F or °C

Full reading displayed
▼ No need to multiply the readout to obtain actual test values

Automatic temperature compensation (ATC)
▼ Gives you accurate measurements even in fluctuating temperatures

ISO9001:2000 CERTIFIED SUPPLIER CE 1 year warranty

Specifications

Mode	SaltTestr 11
Range	0 to 10.00 ppt
Resolution	0.01 ppt
Accuracy	0.00 to 7.00 ppt: ±1% full-scale; above 7.00 ppt: ±3% full-scale
Calibration	One point push-button calibration (using keys inside battery compartment)
Calibration standard range	3 to 10.00 ppt*

*For best accuracy, calibrate to 4.4 ppt NaCl with standard 00653-89 (order on page 37).

Temperature display: 0 to 50°C (32 to 122°F), 0.1°C resolution, ±0.5°C accuracy
Operating temperature: 0 to 50°C; 32 to 122°F
Temperature compensation: automatic (ATC) from 0 to 50°C (32 to 122°F)
ATC coefficient: 2% per °C, 1.11% per °F, 25°C reference temperature
Wetted materials: 316 stainless steel (electrodes) and Valox® housing

Power and battery life: four 1.5 V alkaline batteries Eveready A76 (included), 150 hrs continuous use (approx 600 tests per battery pack). Alternate replacement model model LR44
Dimensions
Unit only: 6.5"L x 1.5" dia (165 x 38 mm)
Boxed: 7.25" x 2.75" x 1.87" (184 x 70 x 48 mm)
Weight
Unit only: 3.25 oz (90 g); Boxed: 6.0 oz (170 g)

Applications

General: Ideal for aquariums, hobbyists (koi fish), aquaculture, fish farms, water and wastewater treatment, pools, and spas.

Ordering Information

Catalog number	Description	Includes
WD-35662-52	SaltTestr 11	Protective plastic storage case, lanyard, and batteries

Accessories

WD-35661-17 Replacement electrode for SaltTestr 11

WD-35624-45 Vinyl carrying case with belt loop; holds one tester and solution pouches

WD-35653-15 Salt standard pouches, 3000 ppm NaCl. Box of 20 pouches

WD-09377-16 Replacement batteries, 1.5 V. Pack of 6

WD-35661-70 Deluxe calibration kit includes two each calibration pouches (447 µS, 1413 µS, 2764 µS, 15,000 µS, and rinse water), sample jar, and foam-lined hard plastic carrying case. (Tester not included)

Custom Kits and Accessories

"Build Your Own" Testr® Kits

Create the kit that *you* want!

▼ Choose up to two waterproof Oakton® Testrs, then order the case and add the accessories you need

Mix or match TDS, EC, or Salt Testrs

▼ Fit the parameters and ranges of your applications

Just follow these 4 easy steps:

1. Order up to two waterproof Testrs and replacement sensor.

For complete information, see page listed.

Catalog number	Model	Range	Page	Sensor Cat. no.
WD-35662-10	TDSTestr® 11	0 to 1990 ppm; 0 to 10.00 ppt	34	WD-35661-17
WD-35662-15	TDSTestr 11+	0 to 199.9 ppm, 0 to 1999 ppm; 0 to 10.00 pt	34	WD-35661-08
WD-35662-30	ECTestr® 11	0 to 1990 µS; 0 to 19.9 ms	35	WD-35661-17
WD-35662-35	ECTestr 11+	0 to 199.9 µS, 0 to 1999 µS; 0 to 19.99 ms	35	WD-35661-08
WD-35662-52	SaltTestr™ 11	0 to 10.00 ppt	36	WD-35661-17

2. Order a case.

WD-35653-71 Hard carrying case with foam inserts

3. Order calibration solutions below.

4. Order additional accessories.

Catalog number	Description
WD-06758-49	Sample bottle; HDPE, 30 mL
WD-35624-45	Soft carrying case, holds one tester and buffer pouches (order separately). Snap lock fastens case around your belt; Velcro® seal secures tester. 5.5"L x 2"W x 7.75"H (14 x 5 x 20 cm)
WD-09377-16	Replacement batteries, 1.5 V. Pack of 6

Pick your components...

and build a custom kit that contains everything *you* need for conductivity and salinity testing and calibration!

35625-45

pH and ORP custom kits are also available. See page 9.

Conductivity/TDS Calibration Solutions

▼ NIST-traceable materials

▼ ±1% accuracy at 25°C

These calibration solutions are standardized against NIST standards, premixed, and ready to use. Each economical one-pint bottle is labeled with the name and CAS number for all ingredients to conform with "Right-to-Know" requirements, and includes an MSDS.

Ordering Information

Catalog number	Conductivity value	TDS calibration values		
		ppm KCl	ppm NaCl	ppm 442
WD-00653-23	23 µS	11.6	10.7	14.74
WD-00653-16	84 µS	40.38	38.04	50.50
WD-00653-47	447 µS	225.6	215.5	300.0
WD-00653-18	1413 µS	744.7	702.1	1000
WD-00653-15	1500 µS	757.1	737.1	1050
WD-00653-27	2070 µS	1045	1041	1500
WD-00653-20	2764 µS	1382	1414.8	2062.7
WD-00653-89	8974 µS	5101	4487	7608
WD-00606-10	12,880 µS	7447	7230	11,367
WD-00653-50	15,000 µS	8759	8532	13,455
WD-00653-32	80 mS	52,168	48,384	79,688

Conductivity/TDS "Singles" Calibration Pouches

▼ Individually sealed and airtight

▼ NIST-traceable materials for high accuracy

▼ ±1% accuracy at 25°C

These "Singles" pouches are convenient, go-anywhere pouches that contain high-precision calibration standards—ideal for field calibrations. Pouches are labeled with equivalent TDS values for KCl, NaCl, and 442 and conductivity values at 25°C and CAS numbers for "Right-to-Know" requirements. Each box contains twenty 20-mL pouches.

Ordering Information

Catalog number	Conductivity value	TDS calibration values		
		ppm KCl	ppm NaCl	ppm 442
WD-35653-09	10 µS	4.7	4.8	7.0
WD-35653-10	447 µS	225.6	215.5	300.0
WD-35653-11	1413 µS	744.7	702.1	1000
WD-35653-12	2764 µS	1382	1414.8	2062.7
WD-35653-13	15,000 µS	8759	8532	13,455
WD-35653-15	56,501 µS	3240	3000	—

Handheld Conductivity/TDS Meter Selection Guide

Get Better Accuracy

Oakton® offers meters with accuracy up to ±1% full-scale. Many meters feature adjustable temperature coefficients and TDS conversion factors. These functions let you minimize, even eliminate errors that are inherent in other manufacturers' less capable meters.

Get Dependability

Oakton meters are built to last and include a two- or three-year warranty. Standard and waterproof meters are built for field duty and the Acorn® series meters come with a protective rubber boot. The benchtop model offers high precision and stability. With the latest in technology including ASIC microprocessors, we offer trouble-free performance for years.

See page 46 to order conductivity/TDS cells and accessories.

Acorn® series

Standard series

Waterproof 400 series

Waterproof 600 series

Use this chart to find the best conductivity or TDS meter for your application

Meter	Acorn® series	Standard series	Waterproof 400 series	Waterproof 600 series
See pages	39–40	41–42	43	44
Special features	Low-cost, rugged compact	Economical, dual-display meter	Holds up in rough environments	Most powerful, ideal for the field
Display	Single-line LCD	Dual LCD	Dual LCD	Multi-line dot matrix
IP67 housing	—	—	Yes	Yes
Memory	—	50 to 100 points	50 points	Up to 500 points
Communication	RS-232	RS-232 (CON 110 only)	—	IrDA
Real-time clock	—	—	Yes	Yes
Calibration points	5	5	5	5
Auto standard recognition	Yes	Yes	No	Yes
Selectable calibration points	Yes	Yes	Yes	Yes
Automatic endpoint	—	—	Yes	Yes
Automatic shutoff	After 20 minutes	After 20 minutes	After 20 minutes	Selectable
Hold function	Yes	Yes	Yes	Yes
Ready/stability indicator	—	Yes	Yes	Yes
Error messages	Yes	Yes	Yes	Yes
Protective rubber boot	Included	—	—	Optional
Built-in stand	Yes (in boot)	Yes	—	Yes (in boot)
Optional AC power	—	Yes	—	Yes

Acorn® CON 6 Meter

Variety of features at an economical price!

Wider measuring ranges
▼ CON 6 features five measuring ranges—up to 200.0 mS

Automatic or manual ranging across five ranges
▼ For a wide variety of applications from pure water to boiler blow down water

Easy, push-button operation

Temperature readout and automatic temperature compensation (ATC)
▼ For high accuracy in changing temperature conditions

Hold function; Auto-off function
▼ Meters shut off after 20 minutes of nonuse

Automatic or manual calibration
▼ For quick and easy calibrations, use automatic mode with preset calibration points at the most popular values. For more flexibility, calibrate in the manual mode and set your calibration point at any value. Five-point calibration.

Setup functions
▼ Customize automatic temperature compensation and cell constant for better accuracy and precision

Includes fast-response probe
▼ Easy to clean; 1.0 cell constant

Protective rubber boot
▼ Helps shield your meter from drops and dings, and features a built-in stand

Above: Protective rubber boot features a built-in stand

Left: CON 6 includes a fast-response conductivity probe

ISO9001:2000 CERTIFIED SUPPLIER CE 3 year warranty meter only

Specifications

Model	Acorn CON 6
Range (Resolution)	0 to 20.00 µS (0.01 µS), 0 to 200.0 µS (0.1 µS), 0 to 2000 µS (1 µS), 0 to 20.00 mS (0.01 mS), 0 to 200.0 mS (0.1 mS)
Accuracy	±1% full scale
Cell constant	0.1, 1, and 10 (selectable)
Calibration	Up to 5 points, one per band on conductivity range
Ranging	Automatic or manual (selectable)

Temperature range: –10.0 to 110.0°C
Temperature resolution/accuracy: 0.1°C/±0.5°C
Temperature compensation: automatic or manual from 0.0 to 50.0°C
Operating temperature: 0 to 50°C (32 to 122°F)
Temperature coefficient: adjustable from 0 to 3% per °C
Normalization temperature: 20 or 25°C, selectable
Probe connection
For conductivity: BNC
For temperature: subminiature audio

Power: four 1.5 V AAA batteries (included); battery life approx 100 hours continuous use
Dimensions
Meter: 5.5" x 2.7" x 1.3" (14 x 7 x 3.5 cm)
Probe: 5.1"L x 0.625" dia with 36" L cable (13 cm L x 1.6 cm dia with 91 cm L cable)
Boxed: 8.3" x 5.9" x 3.0" (21 x 15 x 7.5 cm)
Weight
Meter: 0.9 lb (408 g); Boxed: 1 lb (450 g)

Applications

Water quality testing: Use to test conductivity of industrial and rinse water, incoming process water, boiler and cooling tower water, and pool water.
Printing: Useful for testing printing press solutions and developer concentrations on printing plates.

Ordering Information

Catalog number	Description	Included
WD-35606-10	CON 6 meter	Meter, fast-response conductivity probe (K = 1.0), protective rubber boot, and four AAA batteries

WD-35606-53 Conductivity probe, K = 0.1
WD-35606-55 Replacement conductivity probe, K = 1.0
WD-35606-57 Conductivity probe, K = 10
WD-35632-97 Carrying case for Acorn meter. Includes one rinse bottle and three sample bottles

Acorn® TDS 6 and SALT 6 Meters

Wider measuring ranges
▼ TDS 6 features five measuring ranges—up to 200.0 ppt

Easy, push-button operation

Temperature readout and automatic temperature compensation (ATC)
▼ For high accuracy in changing temperature conditions

Hold function; Auto-off function
▼ Meters shut off after 20 minutes of nonuse

Automatic or manual calibration
▼ For quick and easy calibrations, use automatic mode with preset calibration points at the most popular values. For more flexibility, calibrate in the manual mode and set your calibration point at any value.

Setup functions
▼ Customize automatic temperature compensation, cell constant, and TDS conversion factor for better accuracy and faster use

Includes fast-response probe
▼ Easy to clean; 1.0 cell constant

Protective rubber boot
▼ Helps shield your meter from drops and dings and features a built-in stand

TDS 6 features:

Automatic or manual ranging across five ranges
▼ For a wide variety of applications from pure water to boiler blow down water

SALT 6 features:

Custom conductivity-to-TDS conversion curve
▼ For the highest accuracy

TDS 6 includes fast-response probe

Protective rubber boot features a built-in stand

SALT 6 is ideal for measuring brines

ISO9001:2000 CERTIFIED SUPPLIER CE 3 year warranty meter only

Specifications

Model	Acorn TDS 6	Acorn SALT 6
Range/Resolution	0.00 to 10.00 ppm/0.01 ppm, 10.0 to 100.0 ppm/0.1 ppm, 100 to 1000 ppm/1 ppm, 1.00 to 10.00 ppt/0.01 ppt, 10.0 to 100.0 ppt/0.1 ppt, up to 200.0 ppt*	1 to 50.0 ppt/0.1 ppt, 0.1 to 5.00%/0.01%
Accuracy	±1% full-scale	±1% full-scale
Cell constant	0.1, 1, and 10 (selectable)	1.0
Conductivity-to-TDS/ Saline conversion factor	0.4 to 1.00 adjustable	Nonlinear compensation
Calibration	Up to 5 points, one per band on conductivity range	One point in 1 to 50 ppt range
Ranging	Automatic or manual (selectable)	—

*Depending on TDS factor setting.

Temperature range: –10.0 to 110.0°C
Temperature resolution/accuracy: 0.1°C/±0.5°C
Temperature compensation: automatic or manual from 0.0 to 50.0°C
Operating temperature: 0 to 50°C (32 to 122°F)
Temperature coefficient: adjustable: 0 to 3% per °C
Normalization temperature: 20 or 25°C, selectable
Probe connection
For conductivity, TDS, and SALT: BNC
For temperature: subminiature audio

Power: four 1.5 V AAA batteries (included), approx 100 hours continuous use
Dimensions
Meter: 5.5" x 2.7" x 1.3" (14 x 7 x 3.5 cm)
Probe: 5.1"L x 0.625" dia with 36" L cable (13 cm L x 1.6 cm dia with 91 cm L cable)
Boxed: 8.3" x 5.9" x 3.0" (21 x 15 x 7.5 cm)
Weight
Meter: 0.9 lb (408 g); Boxed: 1 lb (450 g)

Applications

Water Quality Testing: Use to test TDS of industrial and rinse water, incoming process water, boiler and cooling tower water, and pool water. Check salt levels in brines, pool water, and aquaculture systems.
Environmental/Agricultural: Ideal for nutrient and fertilizer checks in the hydroponics and agricultural industries.

Ordering Information

Catalog number	Description	Included
WD-35606-15	TDS 6 meter	Meter, fast-response conductivity probe (cell constant K = 1.0), protective rubber boot, and batteries
WD-35606-20	SALT 6 meter	Meter, fast-response conductivity probe (cell constant K = 1.0), protective rubber boot, and batteries

WD-35606-53 Conductivity probe, K = 0.1
WD-35606-55 Replacement conductivity probe, K = 1.0
WD-35606-57 Conductivity probe, K = 10
WD-35632-97 Carrying case for Acorn meter. Includes one rinse bottle and three sample bottles.

CON 11 Standard Meter

Our most economical meter with dual display—lets you see both conductivity or TDS and temperature at a glance!

Measurements in both TDS or conductivity

Auto ranging across five ranges
- For fast response and best resolution over a wide range

Built-in memory
- Stores up to 50 readings

Four-point conductivity calibration—auto or manual
- Calibrate one point per range for high ±1% full-scale accuracy

Single- or multi-point calibration
- For multirange calibration of highest accuracy

Selectable manual or automatic temperature compensation
- Great accuracy in any application

Adjustable conductivity-to-TDS conversion factor from 0.4 to 1.0

Power with batteries or optional AC adapter
- Use in the field or at your benchtop

Built-in stand
- For benchtop or long-term use

Ready indicator
- Indicates when your measurement has stabilized, so you always record the best reading

Hold function
- Freezes measurements for convenient reading and recording

Auto-off function
- Turns meter off after 20 minutes of nonuse to conserve batteries

A wide range of conductivity cells and calibration solutions are available. See page 46 to order

Applications

Routine Testing: Ideal for quick, accurate conductivity or TDS checks in labs and schools.

Water Quality Testing: Use to test hard water, untreated water, drinking water, incoming process water, and pool water. Also useful in the hydroponics and agricultural industries.

Industrial: Use to check pollution control, metal finishing, cooling tower water, boiler water, brines, rinse tanks, ponds, recirculating systems, and wastewater.

Conductivity Cells

Conductivity cells feature a built-in temperature sensor. Choose a cell with
K = 0.1 for low-range measurements;
K = 1.0 for midrange measurements;
K = 10 for high-range measurements.
All measure 100 mm L x 12 mm dia with 3-ft cable.

Cat. no.	Description	Constant
WD-35608-55	Conductivity cell, epoxy body/ platinum sensor	0.1
WD-35608-50	Replacement conductivity cell, epoxy body/stainless steel	1.0
WD-35608-51	Conductivity cell, epoxy body/ platinum sensor	10

ISO9001:2000 CERTIFIED SUPPLIER CE 3 year warranty meter only

Specifications

Mode	Conductivity	TDS	Temperature
Range/Resolution	0.00 to 19.99 µS/0.01 µS, 20.0 to 199.9 µS/0.1 µS, 200 to 1999 µS/1 µS, 20.00 to 19.99 mS/0.01 mS	0.00 to 9.99 ppm/0.01 ppm, 10.0 to 99.9 ppm/0.1 ppm, 100 to 999 ppm/1 ppm, 1.00 to 9.99 ppt/0.01 ppt	–10 to 110°C/0.1°C
Accuracy	±1% full scale		±0.5°C
Cell constant (K)	0.1, 1.0, 10.0 (selectable)		
Conductivity-to-TDS factor	Adjustable from 0.4 to 1.0		
Calibration	Up to five points (one point per range)		Offset 0.1°C increments

Temperature compensation: automatic or manual from 0 to 100°C
Operating temperature: 0 to 50°C (32 to 122°F)
Temperature coefficient: 0 to 10%/°C
Memory: up to 50 data sets

Power: four 1.5 V AAA batteries (included), >200 hours continuous use; 9 V, 500 mA AC adapter (optional)
Dimensions
Meter: 7.5"L x 3.5"W x 1.75"H (19 x 9 x 4.5 cm)
Boxed: 9.2"L x 8.2"W x 2.75"H (23 x 23 x 7 cm)
Weight
Meter: 1 lb (0.5 kg); Boxed: 2 lb (0.9 kg)

Ordering Information

Cat. no.	Description	Included
WD-35607-40	CON 11 meter	Meter, conductivity cell 35608-50 (K = 1.0), one probe holder, and batteries
WD-35607-80	CON 11 meter kit	Meter, conductivity cell 35608-50 (K = 1.0), one probe holder, calibration solution pouches (four each of 477, 1413, 2704, and 15,500 mS), four rinse pouches, batteries, and hard carrying case

WD-35607-69 Calibration kit contains four each of TDS "Singles" calibration solution pouches (447 µS, 1413 µS, 2764 µS, 15.0 mS), four rinse water pouches, one rinse bottle and three sample bottles, all in a hard plastic carrying case with room for your meter and probe. Dimensions: 11.5"L x 14"W x 3"H.

WD-35615-75 Soft carrying case with belt loop. Protects meter while you take measurements—nylon with Velcro®

WD-35615-07 AC adapter, 110 VAC

WD-35615-08 AC adapter, 220 VAC

CON 110 Standard Meter

Push-button, customizable operating parameters—tailor functions to your application!

Five-point calibration—automatic or manual
▼ Meter recalls previous calibration data

Single- or multi-point calibration
▼ For quick multi-range calibration for highest accuracy

Reads conductivity from 0 to 199.9 mS across five ranges

Selectable automatic or manual temperature compensation

Manual or auto-ranging for conductivity measurements; auto-ranging for TDS readings

Memory function
▼ Stores and recalls 100 readings with corresponding temperature

Selectable cell constant (K)
▼ K = 1.0 for general applications;
K = 0.1 for pure water;
K = 10 for concentrated solutions

Adjustable temperature coefficient
▼ Adjust from 0 to 10% per °C for accurate compensation of almost any solution

Hold function, Error messages, auto-off function

Easily switches from conductivity to TDS readings
▼ Features an adjustable conductivity-to-TDS factor from 0.4 to 1.0

RS-232/printer output
▼ Download data to a computer or printer—ideal for GLP or HACCP data recording needs

FREE Oakton® PC datalog assist software on CD-ROM
▼ Organizes data into format ready to import into popular spreadsheet programs

Applications
General: Monitor dissolved solids or conductivity levels quickly and easily in lab, field and educational environments.

Industrial: Use for testing pollution controls, water treatment, and testing for water hardness. Also useful for checking cooling towers, boiler water, font solutions in printing operations, brines, swimming pools, whirlpools and rinse tanks.

Agricultural: Use in aquariums, fish farms, hydroponics, and fertilizer/chemical concentrations.

Conductivity Cells
Choose a cell with K = 0.1 for low range; K = 1.0 for midrange; K = 10 for high range. Feature a built-in temperature sensor; measure 100 mm L x 12 mm dia.

Catalog number	Description	Constant
WD-35608-55	Conductivity cell, epoxy body/ platinum sensor. 3-ft cable	0.1
WD-35608-50	Replacement conductivity cell, epoxy body/stainless steel sensor. 3-ft cable	1.0
WD-35608-51	Conductivity cell, epoxy body/ platinum sensor. 3-ft cable	10

ISO9001:2000 CERTIFIED SUPPLIER CE 3 year warranty meter only

Specifications

Mode	Conductivity	TDS	Temperature
Ranges/ Resolution	0.00 to 19.99 µS/0.01 µS; 0.0 to 199.9 µS/0.1 µS; 0 to 1999 µS/1 µS; 0.00 to 19.99 mS/0.01 mS; 0.0 to 199.9 mS/0.1 mS	0.00 to 9.99 ppm/0.01 ppm, 10.0 to 99.9 ppm/0.1 ppm, 100 to 999 ppm/1ppm, 1.00 to 9.99 ppt/0.01 ppt	–10 to 110°C (0.1°C) 14 to 230°F (0.1°F)
Accuracy	±1% full-scale		±0.5°C (±0.9°F)
Cell constant (K)	1.0, 0.1 or 10 selectable		
Conductivity-to-TDS factor	Adjustable from 0.4 to 1.0 factor		
Calibration	Up to five points (one point per range)		Offset 0.1°C increments

Temperature compensation: automatic or manual (selectable) from 0 to 100°C (32 to 212°F)

Operating temperature: 0 to 50°C (32 to 122°F)

Temperature coefficient: adjustable from 0.00 to 10.00% per °C

Memory: up to 100 data sets

Power: four 1.5 V AAA batteries (included), >200 hours continuous use; 9 V, 500 mA AC adapter (optional)

Dimensions
Meter: 7.5"L x 3.5"W x 1.75"H (19 x 9 x 4.5 cm)
Boxed: 9.2"L x 9.2"W x 2.75"H (23 x 23 x 7 cm)

Weight
Meter: 1 lb (0.5 kg); Boxed: 2 lb (0.9 g)

Ordering Information

Catalog number	Description	Included
WD-35607-45	CON 110 meter	Meter, conductivity cell 35608-50 (K = 1.0), software, one probe holder, and batteries
WD-35607-85	CON 110 meter kit	Meter, conductivity cell 35608-50 (K = 1.0), software, one probe holder, calibration pouches (four each of 477, 1413, 2704, and 15,500 mS), four rinse pouches, batteries, and hard carrying case

Accessories
WD-35615-75 Soft carrying case with belt loop. Protects meter while you take measurements—nylon with Velcro®

WD-35615-07 AC adapter, 110 VAC

WD-35615-08 AC adapter, 220 VAC

RS-232 Computer/Printer Accessories
WD-35622-00 Portable printer, 110 VAC, rechargeable

WD-35622-05 Portable printer, 220 VAC, rechargeable

WD-35615-09 Computer cable, 9-pin male to 9-pin female connects meter to your PC

WD-35622-59 Printer cable, 25-pin male to 9-pin male connects meter to your printer

CON 400 and CON 410 Meters

Highly advanced microprocessor-based conductivity meters with waterproof housing. . .and they even FLOAT!

Durable, waterproof and dustproof IP67-rated design

Easy-to-clean housing

- Ideal for dirty, wet environments and food applications

Expanded memory

- Stores and recalls up to 50 readings with temperature, and previous calibration data

Real-time clock

- Stamps stored data and calibration data with date and time; meets standards for GLP

°C or °F selectable

Manual or automatic temperature compensation

- For the highest accuracy in any situation

Selectable temperature coefficient

- Adjustable from 0 to 10% per °C for accurate compensation of almost any solution

Selectable cell constant

- K = 1.0 for general applications;
  K = 0.1 for pure water;
  K = 10 for concentrated solutions

CON 400 features:

Reads conductivity from 0 to 199.9 mS in five ranges

CON 410 also features:

Switch between conductivity and TDS measurement with a press of a button

Applications

Routine Testing: Ideal for quick, accurate conductivity or TDS checks in labs, field, and schools.

Water Quality Testing: Use to test hard water, untreated water, drinking water, incoming process water, and pool water. Also useful in the hydroponics and agricultural industries.

Industrial: Use to check pollution control, metal finishing, cooling tower water, boiler water, drilling mud, brines, rinse tanks, ponds, recirculating systems, and wastewater.

Conductivity Cells

Choose a cell with K = 0.1 for low range; K = 1.0 for midrange; K = 10 for high range. Feature a built-in temperature sensor; measure 100 mm L x 12 mm dia.

Cat. no.	Description	Constant
WD-35608-50	Replacement conductivity cell, Ultem body, steel sensor. 3-ft cable	1.0
WD-35608-51	Conductivity cell, epoxy body, platinum sensor. 3-ft cable	10
WD-35608-55	Conductivity cell, epoxy body, platinum sensor. 3-ft cable	0.1
WD-35608-57	Conductivity cell, Ultem body, steel sensor. 16-ft cable	1.0

CON 410

ISO 9001:2000 CERTIFIED SUPPLIER · CE · 3 year warranty meter only

Specifications

Mode	Conductivity (CON 400 and 410 meters)	TDS (CON 410 meter only)	Temperature (CON 400 and 410 meters)
Range/ Resolution	0.00 to 19.99 µS/0.01 µS, 0.0 to 199.9 µS/0.1 µS, 0 to 1999 µS/1 µS, 0.00 to 19.99 mS/0.01 mS, 0.0-199.9 mS/0.1 mS	0.00 to 9.99 ppm/0.01 ppm, 10.0 to 99.9 ppm/0.1 ppm, 100 to 999 ppm/1 ppm, 1.00 to 9.99 ppt/0.01 ppt, 10.0-99.9 ppt/0.1 ppt, 100-200 ppt/1 ppt	Epoxy-body cells: 0 to 80°C / 0.1°C Glass-body cells: 0 to 100°C / 0.1°C
Accuracy	±1% full-scale	±1% full-scale	±0.5°C / ±0.5°F
Cell constant (K)	0.1, 1, 10.0 (selectable)	—	—
Conductivity-to-TDS factor	—	0.4 to 1.0	—
Calibration	Up to five points (one point per range)	Up to five points (one point per range)	Offset 0.1° increments

Temperature compensation: automatic or manual (selectable) from 0 to 50°C

Operating temperature: 0 to 50°C (32 to 122°F)

Temperature coefficient: adjustable from 0.0 to 10.0% per °C

Memory: up to 50 data sets

Power: four 1.5 V AAA batteries (included), >100 hours continuous use

Dimensions
Meter: 7.5"L x 3.75"W x 2.25"H (19 x 9.5 x 5.7 cm)
Boxed: 9.2"L x 9.2"W x 2.75"H (23 x 23 x 7 cm)

Weight
Meter: 1.0 lb (0.5 kg); Boxed: 2.0 lb (0.9 kg)

Ordering Information

Catalog number	Description	Included
WD-35608-00	CON 400 meter	Meter, conductivity cell 35608-50 (K = 1.0), and batteries
WD-35608-10	CON 410 meter	Meter, conductivity cell 35608-50 (K = 1.0), and batteries

WD-35607-69 Calibration kit contains four each of "Singles" TDS calibration solution pouches (447 µS, 1413 µS, 2764 µS, 15.0 mS), four rinse water pouches, one rinse bottle, three sample bottles, all in a hard plastic carrying case with room for your meter and probe. Dimensions: 11.5"L x 14"W x 3"H.

CON 600 and CON 610 Meters

Conductivity, TDS, resistivity, salinity—measure from pure water to seawater!

Durable waterproof and dustproof design with IP67 rating
- Even with no probes attached and the battery compartment open

Single or multipoint calibration; auto or manual
- Fast, trouble-free calibration for more accurate measurements

Large backlit graphic display
- Multi-line display with electrode status indicator, calibration data, and more

User-settable "calibration due" alarm
- Out-of-date or unperformed calibrations are now things of the past!

Built-in real-time clock
- Time-and-date stamping meets Good Laboratory Practice (GLP) standards

Advanced data management
- Store up to 500 data sets and download via Infrared IrDA wireless interface

Set point alarms
- Audible warning when readings are outside set points limit

Accept 2-cell and 4-cell conductivity probes
- Measure over a broad conductivity range up to 500 mS/cm

Password protection
- Security for calibration and setup menus

Multiparameter models available. See pages 56–59.

Right: CON 610 meter

Above top: Rubber boot (optional; included with kits) protects meter in rugged environments.

Above bottom: Complete kits available; include meter, solutions, rubber boot, and carrying case.

Specifications

ISO9001:2000 CERTIFIED SUPPLIER CE 3 year warranty

Mode	CON 600 meter	CON 610 meter
Conductivity	0 to 200.0 mS	0 to 500.0 mS
TDS	0 to 200 ppt	0 to 500 ppt
Salinity	—	0 to 80 ppt
Resistivity	—	0 to 20.00 MΩ
Temperature	–10.0 to 110.0°C (14.0 to 230.0°F)	–10.0 to 110.0°C (14.0 to 230.0°F)
Resolution	0.05% full-scale; 0.1°C (0.1°F)	
Accuracy	±1% full-scale; ±0.5°C (±0.9°F)	
Calibration	Manual cal, up to 5 points (1 per range); automatic up to 4 points (84.0 µS/cm, 1413 µS/cm, 12.88 mS/cm, 111.8 mS/cm). Temperature offset 0.1°C (0.1°F) increments.	

TDS factor: 0.40 to 1.00
Cell constant: 0.100 to 10.000 0.010 to 10.000
Memory: up to 500 sets with GLP date and time
Output: infrared, IrDA
Real-time clock: time-and-date stamp on calibration and stored data
Temperature normalization: 15 or 30°C
Temperature coefficient: linear or pure (610 only)
Temperature compensation: automatic or manual (selectable) from 0 to 100°C

Ambient operating temperature: 0 to 50°C (32 to 122°F)
Power: four 1.5 V AA batteries (included) or optional universal AC adapter, up to 200 hours continuous use
Dimensions
Meter: 7.25"L x 3.25"W x 2.25"H
Boxed: 9.2"L x 9.2"W x 2.75"H (23 x 23 x 7 cm)
Weight
Meter: 1.0 lb (0.45 kg); Boxed: 2.0 lb (0.9 kg)

Ordering Information

Catalog number	Description	Included
WD-35408-02	CON 600 meter only	Meter and batteries
WD-35408-12	CON 610 meter only	Meter and batteries
WD-35408-00	CON 600 meter	Meter, conductivity cell 35408-52, and batteries
WD-35408-10	CON 610 meter	Meter, conductivity cell 35408-52, and batteries
WD-35408-70	CON 600 meter kit	Meter, conductivity cell 35408-52, conductivity standards (60 mL each of four solutions; 1413 µS, 12.88 mS, 3000 ppm, and rinse water), rubber boot, electrode holder, batteries, and hard carrying case
WD-35408-80	CON 610 meter kit	Meter, conductivity cell 35408-52, conductivity standards (60 mL each of four solutions; 1413 µS, 12.88 mS, 3000 ppm, and rinse water), rubber boot, electrode holder, batteries, and hard carrying case

WD-35408-50 Conductivity cell, 2-electrode, K = 0.1
WD-35408-52 Conductivity cell, 2-electrode, K = 1
WD-35408-54 Conductivity cell, 2-electrode, K = 10
WD-35408-56 Conductivity cell, 4-electrode, K = 0.3
WD-35418-83 Optional adapter, 110/220 VAC

CON 510 Meter

An affordable way to take consistent, accurate conductivity measurements in your laboratory!

Dual display shows both conductivity or TDS, and temperature in °C or °F
- Plus mode indicators and annunciators to indicate meter status

Single- and multi-point automatic or manual calibration
- Customize meter calibration for quick checks or for best meter accuracy

Auto ranging across five ranges
- Offers the best resolution for your measurements

Advanced setup mode
- Recalls previous calibration data, conductivity/TDS effective cell constants per range, and more

Built-in nonvolatile memory
- Stores up to 50 conductivity or TDS readings with corresponding temperature

Automatic or manual temperature compensation

Selectable cell constant
- K = 0.1 for pure water; K = 1.0 for most applications; K = 10 for concentrated solutions

Adjustable conductivity-to-TDS conversion factor and temperature coefficient
- Gives highest accuracy in any solution

Selectable normalization temperature
- Choose between 15 to 30°C

Built-in electrode holder arm; selectable "Ready" indicator; Hold function; diagnostic error messages

Includes conductivity cell
- With cell constant of 1.0—ideal for most applications

Right: The CON 510 meter includes electrode stand and handy slide-out instruction card.

Lower left: Conductivity/TDS/temperature probe has removable probe guard for easy cleaning.

ISO 9001:2000 CERTIFIED SUPPLIER CE 3 year warranty

Specifications

Mode	Conductivity	TDS	Temperature
Ranges (Resolution)	0.00 to 20.00 µS (0.01 µS), 0.0 to 200.0 µS (0.1 µS), 0 to 2000 µS (1 µS), 0.00 to 20.00 mS (0.01 mS), 0.0 to 200.0 mS (0.1 mS)	0.00 to 10.00 ppm (0.01 ppm), 10.0 to 100.0 ppm (0.1 ppm), 100 to 1000 ppm (1 ppm), 1.00 to 10.00 ppt (0.01 ppt), 10.0 to 100.0 ppt (0.1 ppt), 100 to 200 ppt (1 ppt)	0.0 to 100.0°C (0.1°C), 32.0 to 212.0°F (0.1°F)
Accuracy	±1% full-scale or ±1 digit		±0.5°C, ±0.9°F
Calibration	Automatic: single or multi-point up to 4 points (84 µS, 1413 µS, 12.88 mS, 111.8 mS) Manual: single or multi-point up to 5 points per range for multi-point calibration)		Offset 0.1° increments up to ±5°

Temperature compensation: automatic or manual (selectable) from 0 to 100°C
Operating temp: 0 to 50°C (32 to 122°F)
Cell constant (K): 0.1, 1.0 or 10 selectable
Temp coefficient: adjustable from 0 to 10% per °C or °F
Conductivity-to-TDS factor: adjustable from 0.40 to 1.00
Normalization temp: adjustable from 15 to 30°C
Display: dual display of conductivity or TDS, with temperature (°C or °F)
Error messages: diagnose operator error, electrode error, and meter error. Pull-out instruction card decodes message.

Memory: 50 sets
Power: 9 VDC, 500 mA; using AC adapter (included); 110 VAC, 60 Hz or 220 VAC, 50 Hz. AC adapter is CSA and UL listed.
Dimensions
Meter: 9" x 7" x 2.375" (23 x 18 x 6 cm)
Boxed: 15.5" x 10" x 3.5" (39 x 25 x 9 cm)
Weight
Meter only: 1.25 lb (0.6 kg); Boxed 3 lb (1.4 kg)

Ordering Information

Catalog number	Description	Includes
WD-35611-00	CON 510 meter	Meter, conductivity cell with an Ultem body/stainless steel sensor K = 1.0 (35608-50), AC adapter, and electrode stand

WD-35608-50 Replacement conductivity cell, Ultem body, stainless steel sensor, built-in temperature sensor (K = 1.0). 3-ft cable

WD-35608-51 Conductivity cell, epoxy body, platinum sensor, built-in temperature sensor (K = 10). 3-ft cable

WD-35608-52 Conductivity cell, glass body, platinum sensor, built-in temperature sensor (K = 1.0). 3-ft cable

WD-35608-55 Conductivity cell, epoxy body, platinum sensor, built-in temperature sensor (K = 0.1). 3-ft cable

WD-35608-57 Conductivity cell, Ultem body, stainless steel sensor, built-in temperature sensor (K = 1.0). 10-ft cable

Calibration Solutions and Accessories

Conductivity/ TDS Cells

Choose from three cell constants

All cells feature built-in temperature compensation. A 1.0 cell constant (K) is ideal for midrange conductivity measurements. For high conductivity measurements (near or above 20 mS) order a cell with K = 10.0; for low conductivity measurements (near or below 20 µS), order a cell with K = 0.1.

A B C

Ordering Information

Catalog number	Body/sensor material	Cell constant	Temperature range	Cable length	Probe style
Cells for use with CON 6, TDS 6, and SALT 6					
WD-35606-53	Ultem	K = 0.1	0 to 80°C	3 ft	C
WD-35606-55	Ultem	K = 1.0	0 to 80°C	3 ft	C
WD-35606-57	Ultem	K = 10	0 to 80°C	10 ft	C
Cells for use with CON 400, CON 410, TDS 400, CON 510, pH/CON 300, pH/CON 510, CON 11, and CON 110					
WD-35608-50	Ultem	K = 1.0	0 to 80°C	3 ft	C
WD-35608-57	Ultem	K = 1.0	0 to 80°C	10 ft	C
WD-35608-51	Epoxy	K = 10	0 to 80°C	3 ft	A
WD-35608-52	Glass	K = 1.0	0 to 100°C	3 ft	B
WD-35608-55	Epoxy	K = 0.1	0 to 80°C	3 ft	A
Cells for use with CON 600, CON 610, PC 650, CD 650, and PCD 650					
WD-35408-50	Epoxy	K = 0.1	0 to 80°C	3 ft	A
WD-35408-52	Ultem	K = 1.0	0 to 80°C	3 ft	C
WD-35408-57	Ultem	K = 1.0	0 to 80°C	10 ft	C
WD-35408-54	Epoxy	K = 10	0 to 80°C	3 ft	A
WD-35408-56	Epoxy, 4-cell	K = 0.3	0 to 80°C	3 ft	A
WD-35408-58	Epoxy	K = 0.01	0 to 80°C	3 ft	A

Conductivity/TDS Calibration Solutions

NIST-traceable; ±1% accuracy at 25°C

Conductivity/TDS calibration solutions are cross checked using different test methods, premixed, and ready to use. Each one-pint bottle is labeled with the name and CAS number for all ingredients to conform with "Right-to-Know" requirements.

Ordering Information

Catalog number	Conductivity value	Conductivity-to-TDS calibration values		
		ppm KCl	ppm NaCl	ppm 442
WD-00653-23	23 µS	11.6	10.7	14.74
WD-00653-16	84 µS	40.38	38.04	50.50
WD-00653-47	447 µS	225.6	215.5	300.0
WD-00653-18	1413 µS	744.7	702.1	1000
WD-00653-15	1500 µS	757.1	737.1	1050
WD-00653-27	2070 µS	1045	1041	1500
WD-00653-20	2764 µS	1382	1414.8	2062.7
WD-00653-89	8974 µS	5101	4487	7608
WD-00606-10	12,880 µS	7447	7230	11,367
WD-00653-50	15,000 µS	8759	8532	13,455
WD-00653-32	80 mS	52,168	48,384	79,688

Conductivity/TDS "Singles" Calibration Pouches

NIST traceable for high accuracy; ±1% accuracy at 25°C

Conductivity/TDS "Singles" are convenient, individually sealed pouches that contain high-precision calibration standards. Ideal for field calibration; just select the pouches you need and carry them to your test site for on-the-spot calibration and verification. Pouches are labeled with equivalent values for KCl, NaCl, and 442 and conductivity values at 25°C and CAS numbers for "Right-to-Know" requirements. Each box contains twenty 20-mL pouches.

Ordering Information

Catalog number	Conductivity value	Conductivity-to-TDS calibration values		
		ppm KCl	ppm NaCl	ppm 442
WD-35653-09	10 µS	4.7	4.8	7.0
WD-35653-10	447 µS	225.6	215.5	300.0
WD-35653-11	1413 µS	744.7	702.1	1000
WD-35653-12	2764 µS	1382	1414.8	2062.7
WD-35653-13	15,000 µS	8759	8532	13,455
WD-35653-15	5,650 µS	3240	3000	—

WD-35653-00 "Singles" deionized rinse water pouches, 20 pouches/box

Portable Printer

Use with the CON 110 portable meter (pg 42)

Create permanent records of your data from Oakton® meters with RS-232 output! This printer's compact size and rechargeable battery pack make it the perfect printer for both field use and crowded benchtop space. Pre-configured setup selections match the exact parameters of your meter. Accepts standard-sized adding machine rolls and printer ribbons.

Ordering Information

Catalog number	Description	Power
WD-35622-00	Portable printer	110 VAC
WD-35622-05	Portable printer	220 VAC

WD-35622-59 Printer cable, connects printer to your CON 110 meter (or other meters with RS-232 output)

WD-35622-60 Replacement ribbon cartridge

WD-35622-62 Replacement paper, one roll

Dissolved Oxygen Handheld Meters

Get Better Accuracy. Oakton Instruments offers only galvanic probes with its meters for one key reason—low drift. Low drift means better accuracy because the calibration lasts longer. Galvanic probe technology is slightly more expensive to manufacture than simple polarographic systems. However, for results you can count on all day—or night—in the field, we think it is worth it. Combine the superior probe technology with the application-specific microprocessor technology in Oakton® DO meters, and there is no doubt these are meters that deliver reliable, accurate results.

A Better Value. Besides accuracy, you want good value when it comes to DO instruments. The value built into our DO meters is the result of our drive for quality, functionality, and durability. This commitment inspires us to do the extra things that may not be instantly apparent—from our use of custom thermoplastic housing materials for superior chemical and temperature durability, to our waterproof models' unique isolated battery and sensor input compartments that protect the meter even when it is not properly assembled by the user. Or, our informative icons on our LCD, and our probe start-up kit included with every meter. All of these things combine to give you a superior product that delivers long-term utility and value.

Lots of Options. Oakton gives you a host of product options that enable you to select the best DO measurement system for your needs. We offer an economical meter for those less demanding environments, such as your indoor applications. Our full-featured model with backlit display is perfect for outdoor and nighttime use. And, we offer a combination pH/DO meter that features—in a single unit— the two most important chemical measurements in aquaculture and wastewater treatment applications. In support of these meter options, we offer DO probes with varying cable lengths up to 100 feet. Finally, we provide a variety of support products, including field calibration kits and accessories.

Get More For Your Money. Better accuracy, better value, and more options—all are yours with Oakton DO meters, the best choice in the long run.

Handheld Dissolved Oxygen Meter Selection Guide

Use this handy comparison chart to help select the dissolved oxygen meter right for your application. Our superior, low-maintenance galvanic probes let you take readings immediately—no warmup required!

Acorn® Series

Standard Series

Waterproof 300 Series

Waterproof 600 Series

See page 51 to order replacement DO probes and accessories.

Meter	Acorn® series	Standard series	Waterproof 300 series	Waterproof 600 series
See page	48	49	50	51
Special features	Our most economical DO meter	Dual-line display, optional AC power	Waterproof, dustproof plus backlit display	Most powerful ideal for the field
DO range	0.00 to 20.00 mg/L (ppm); 0.00 to 200.0%	0.00 to 20.00 mg/L (ppm); 0.00 to 200.0% saturation	0.00 to 20.00 mg/L (ppm); 0.00 to 200.0% saturation	0.00 to 20.00 mg/L (ppm); 0.00 to 200.0% saturation
DO resolution	0.01 mg/L (ppm); 0.1% saturation	0.01 mg/L (ppm); 0.1% saturation	0.01 mg/L (ppm); 0.1% saturation	0.01 mg/L (ppm); 0.01% saturation
DO accuracy	±1.5% full-scale	±1.5% full-scale	±1.5% full-scale	±1.5% full-scale
Probe technology	Galvanic	Galvanic	Galvanic	Galvanic
Waterproof/dustproof	—	—	Yes	Yes
Memory function	—	Up to 16 sets of readings	Up to 50 sets of readings	Up to 500 sets of readings
Backlit display	—	—	Yes	Yes
Real-time clock	—	—	Yes	Yes
°C/°F selectable	—	—	Yes	Yes
Protective rubber boot	Yes	—	—	Yes
Built-in stand	Yes	Yes	—	Yes
Optional AC power	—	Yes	—	Yes

Acorn® DO 6 Meter

Compact and economical—rugged rubber boot protects meter

No meter warm-up required
▼ Galvanic probe design lets you take measurements immediately without the typical 15-minute wait!

Easy-to-service, low-maintenance probe
▼ Replaceable membrane cap assembly makes probe maintenance hassle-free! Simply fill cap with electrolyte solution and screw on.

Key in salinity and pressure values manually
▼ Automatically calculates the offset value for increased accuracy

Independent 100% and zero adjustment calibrations
▼ Gives meter high accuracy across entire measuring range

Offset adjustment capabilities
▼ Calibrate your meter to a known work standard or titrimetrically determined value

Displays electrode diagnostics
▼ Gives slope, zero offset, and millivolt values to help determine when you need to service or replace electrode

Easily toggle from mg/L (ppm) or % saturation to temperature mode

Left: DO 6 shown with DO probe.

Right top: Protective rubber boot features a built-in stand

Right: DO 6 meter kit

See page 53 to order replacement DO probes and accessories

Specifications

ISO9001:2000 CERTIFIED SUPPLIER · CE · 2 year warranty

Mode	mg/L (ppm)	% Saturation	Temperature
Range	0.00 to 20.00 mg/L (ppm)	0.0 to 200.0%	–5.0 to 105.0°C
Resolution	0.01 mg/L (ppm)	0.1%	0.1°C
Accuracy	±1.5% full-scale	±1.5% full-scale	±0.5°C

Temperature compensation: automatic from 0 to 50°C
Operating temperature: 0 to 50°C
Salinity correction
Range: 0.0 to 50.0 ppt
Resolution: 0.1 ppt
Method: key in manually and automatic correction
Barometric pressure correction
Range: 500 to 1499 mm Hg
Resolution: 1 mm Hg
Method: key in manually and automatic correction

Probe: galvanic
Memory: none
Power: four 1.5 V AAA batteries (included), >700 hrs continuous use
Dimensions
Meter: 5.5"L x 2.7"W x 1.3"H (14 x 7 x 3.5 cm)
Boxed: 8.3"L x 5.9"W x 3"H (21 x 15 x 7.5 cm)
Probe: 5"L x 0.5" dia (11.5 cm L x 1.2 cm dia)
Weight
Meter: 1.0 lb (0.45 kg); Boxed: 1.4 lb (0.64 kg)

Applications

Aquacultural: Monitor oxygen levels in catfish and shrimp farming, game fishing ponds, ornamental fish tanks and ponds, and in other fish farming applications.
Environmental: Test water quality, monitor health of aquatic ecosystems, survey surface and ground water drinking supplies, and meet EPA regulations.
Industrial: Use to check the quality of plant water intake and discharge, wastewater and water treatment, recirculating systems, and industrial process systems.
Educational: Ideal for quick, accurate dissolved oxygen readings in labs and schools.

Ordering Information

Catalog number	Description	Includes
WD-35642-11	DO 6 meter only	Meter and batteries
WD-35642-10	DO 6 meter	Meter, DO probe 35642-50 with 3-ft cable, electrolyte solution, replacement membrane cap, and batteries
WD-35642-60	DO 6 meter kit	Meter, DO probe 35642-50 with 3-ft cable, electrolyte solution, two replacement membrane caps, three sample bottles, hard carrying case with space for meter and probe, and batteries

Accessories

WD-35642-55 Maintenance kit includes replacement membrane cap and 10 mL of electrolyte solution
WD-35640-71 Replacement electrolyte, premixed 500-mL bottle

DO 110 Meter

Measure dissolved oxygen immediately—no meter warm-up required

No meter warm-up required
- Galvanic probe design lets you take measurements immediately without the typical 15 minute wait!

Easy-to-service, low-maintenance probe
- Replaceable membrane cap assembly makes probe maintenance hassle-free! Simply fill cap with electrolyte solution and screw on.

Key in salinity and pressure values manually
- Meter automatically calculates the offset value for increased accuracy

Independent 100% and zero adjustment calibrations
- Gives meter high accuracy across entire measuring range

Offset adjustment capabilities
- Calibrate your meter to a known work standard or titrimetrically determined value

Stores and recalls 16 DO readings with corresponding temperature

Displays electrode diagnostics
- Gives slope, zero offset, and millivolt values to help determine when you need to service or replace electrode

Dual-line display simultaneously shows mg/L (ppm) or % saturation, plus temperature

Left: DO 110 shown with DO probe.

Below: Soft carrying case allows hands-free operation (order separately). Optional probe, with 25-, 50-, or 100-ft cable help to meet your field applications.

ISO 9001:2000 CERTIFIED SUPPLIER CE 2 year warranty

Specifications

Mode	mg/L (ppm)	% Saturation	Temperature
Range	0.00 to 20.00 mg/L (ppm)	0.0 to 200.0%	0.0 to 50.0°C
Resolution	0.01 mg/L (ppm)	0.1%	0.1°C
Accuracy	±1.5% full-scale	±1.5% full-scale	±0.1°C

Temperature compensation: automatic from 0 to 50°C
Operating temperature: 0 to 50°C
Salinity correction
Range: 0.0 to 50.0 ppt
Resolution: 0.1 ppt
Method: key in manually and automatic correction
Barometric pressure correction
Range: 555 to 808 mm Hg
Resolution: 1 mm Hg
Method: key in manually and automatic correction

Probe: galvanic
Memory: stores and recalls 16 sets
Power: four 1.5 V AAA batteries (included), >50 hrs continuous use; 9 V, 500 mA AC adapter (optional)
Dimensions
Meter: 7.5"L x 3.5"W x 1.75"H (19 x 9 x 4.5 cm)
Boxed: 9.2"L x 9.2"W x 2.75"H (23 x 23 x 7 cm)
Probe: 6.8"L x 1.3" dia (17,3 cm L x 3.2 cm dia)
Weight
Meter: 1.0 lb (0.45 kg); Boxed: 1.4 lb (0.64 kg)

Applications

Aquacultural: Monitor oxygen levels in catfish and shrimp farming, game fishing ponds, ornamental fish tanks and ponds, and in other fish farming applications.
Environmental: Test water quality, monitor health of aquatic ecosystems, survey surface and ground water drinking supplies, and meet EPA regulations.
Industrial: Use to check the quality of plant water intake and discharge, wastewater and water treatment, recirculating systems, and industrial process systems.
Educational: Ideal for quick, accurate dissolved oxygen readings in labs and schools.

Ordering Information

Catalog number	Description	Includes
WD-35640-22	DO 110 meter only	Meter and batteries
WD-35640-20	DO 110 meter	Meter, DO probe 35640-50 with 10-ft cable, electrolyte solution, two replacement membrane caps, and batteries
WD-35640-64	DO 110 meter kit	Meter, DO probe 35640-50, 500 mL of electrolyte solution, two replacement membrane caps, three sample bottles, hard carrying case with space for meter and probe, and batteries

Accessories

WD-35615-07 AC adapter, 9 VDC to 110 VAC
WD-35615-08 AC adapter, 9 VDC to 220 VAC
WD-35615-75 Soft carrying case

See page 53 to order replacement DO probes and accessories

DO 300 Meter

Advanced, high-accuracy dissolved oxygen meter with superior waterproof housing...and it FLOATS!

Waterproof, dustproof housing with IP67 rating

Very low drift probe
- For enhanced stability and repeatability

Input salinity and pressure values manually
- Meter automatically calculates the offset value for increased accuracy

Independent 100% and zero adjustment calibrations
- For high accuracy over the full meter range

Offset adjustment capabilities
- Calibrate your meter to a known work standard or titrimetrically determined value

Keypad-adjustable backlit display
- Ideal for viewing readings in dark areas

No meter warm-up required
- Galvanic probe design lets you take measurements immediately without the typical 15-minute to 4-hour wait!

Easy-to-service, low-maintenance probe
- Replaceable membrane cap assembly makes probe maintenance hassle-free—simply fill cap with electrolyte solution and screw on

Expanded memory stores up to 50 DO/temp readings

Real-time clock
- Time/date stamps data stored in memory and calibration data (GLP friendly)

Display electrode diagnostics
- View slope, zero offset, and millivolt values

Dual-line display simultaneously shows mg/L (ppm) or % saturation, plus temperature

°C/°F selectable

35641-00

At left: DO 300 meter with galvanic probe (included).

Above right: IP67-rated housing floats!

Specifications

Mode	mg/L (ppm)	% Saturation	Temperature
Range	0.00 to 20.00 mg/L (ppm)	0.0 to 200.0%	0.0 to 50.0°C (32.0 to 122.0°F)
Resolution	0.01 mg/L (ppm)	0.1%	0.1°C (0.1°F)
Accuracy	±1.5% full-scale	±1.5% full-scale	±0.3°C (±0.3°F)

Temperature compensation: automatic from 0 to 50°C
Operating temperature: 0 to 50°C
Salinity correction
Range: 0.0 to 50.0 ppt
Resolution: 0.1 ppt
Method: key in manually and automatic correction
Barometric pressure correction
Range: 500 to 1499 mm Hg, 66.6 to 199.9 kPa
Resolution: 1 mm Hg, 0.1 kPa
Method: key in manually and automatic correction
Probe: galvanic
Memory: 50 sets

Real-time clock: stamps calibration data and stored data with time and date (month and day)
Backlit display: eight levels of brightness
Power: four 1.5 V AAA batteries (included), >100 hours continuous use: use of backlit display decreases battery life
Dimensions
Meter: 7.5"L x 3.5"W x 1.75"H (19 x 9 x 4.5 cm)
Boxed: 9.2"L x 9.2"W x 2.75"H (23 x 23 x 7 cm)
Probe: 6.8"L x 1.3" dia (17.3 cm L x 3.2 cm dia)
Weight
Meter: 1.0 lb (0.5 kg); Boxed: 2.0 lb (0.9 kg)

Ordering Information

Catalog number	Description	Includes
WD-35641-01	DO 300 meter only	Meter and batteries
WD-35641-00	DO 300 meter kit	Meter, DO probe 35640-50 with 10-ft cable, electrolyte solution, replacement membrane caps, and batteries

DO 600 Meter

Fast dissolved oxygen measurement with automatic pressure compensation

Durable waterproof and dustproof design with IP67 rating
▼ Even with no probes attached and the battery compartment open

Single or multipoint calibration
▼ Fast trouble-free calibration in air

Large backlit graphic display
▼ Multi-line display with electrode status indicator, calibration data, and more

User-settable "calibration due" alarm
▼ Out-of-date or unperformed calibrations are now things of the past!

Built-in real-time clock
▼ Time-and-date stamping meets Good Laboratory Practice (GLP) standards

Advanced data management
▼ Store up to 500 data sets and download via Infrared IrDA wireless interface

Set point alarms
▼ Audible warning when readings are outside set points limit

No meter warm-up required
▼ Galvanic probe design lets you take measurements immediately without the typical 15-minute to 4-hour wait!

Password protection
▼ Security for calibration and setup menus

Left: DO 600 meter

Above: Complete kit available; includes meter, solutions, rubber boot, and carrying case.

Right: DO probes available with up to 100-ft cable.

Multiparameter models available. See pages 56–59.

Specifications

ISO9001:2000 SUPPLIER CERTIFIED CE 3 year warranty

Mode	mg/L (ppm)	% Saturation	Temperature
Range	0.00 to 90.00 mg/L (ppm)	0.0 to 600.0%	0.0 to 50.0°C (32.0 to 122.0°F)
Resolution	0.01 mg/L (ppm)	0.1%	0.1°C (0.1°F)
Accuracy	±0.2% mg/L	±2% full-scale	±0.3°C (±0.3°F)

Salinity correction
Range: 0.0 to 50.0 ppt
Resolution: 0.1 ppt
Method: key in manually and automatic

Barometric pressure correction
Range: 450 to 825 mm Hg, 59.9 to 109.9 kPa
Resolution: 1 mm Hg, 0.1 kPa
Method: automatic correction

Probe: galvanic

Memory: up to 500 sets with GLP date and time

Output: infrared, IrDA

Real-time clock: time-and-date stamp on calibration and stored data

Temperature compensation: automatic or manual (selectable) from 0 to 50°C

Ambient operating temperature: 0 to 50°C (32 to 122°F)

Power: four 1.5 V AA batteries (included) or optional universal AC adapter, up to 500 hours continuous use

Dimensions
Meter: 7.25"L x 3.25"W x 2.25"H
Boxed: 9.2"L x 9.2"W x 2.75"H (23 x 23 x 7 cm)

Weight
Meter: 1.0 lb (0.45 kg); Boxed: 2.0 lb (0.9 kg)

Ordering Information

Catalog number	Description	Included
WD-35441-02	DO 600 meter only	Meter and batteries
WD-35441-00	DO 600 meter	Meter, probe 35640-50 with 10-ft cable, electrolyte solution, replacement membrane caps, and batteries
WD-35441-70	DO 600 meter kit	Meter, probe 35640-50 with 10-ft cable, electrolyte solution, rubber boot, replacement membrane caps, batteries, and hard carrying case

WD-35640-50 Dissolved oxygen probe, 10-ft cable
WD-35418-83 Optional adapter, 110/220 VAC

DO Probes and Accessories

Probes

Oakton® probes use galvanic technology to provide rapid results, without any warm-up requirements.

35642-50 35640-50

Probes for Acorn® DO 6 meter

Includes 50 mL of electrolyte solution and one replacement membrane cap.
Probe dimensions:
5"L x 0.5" dia (11.5 cm L x 1.2 cm dia)

Catalog number	Description
WD-35642-50	Replacement DO probe with 3-ft cable
WD-35642-52	DO probe with 10-ft cable
WD-35642-54	DO probe with 30-ft cable

Probes for DO 110, DO 300, and DO 600 meters

Includes 50 mL of electrolyte solution and two replacement membrane caps.
Probe dimensions:
6.8"L x 1.3" dia (17.3 cm L x 3.2 cm dia)

Catalog number	Description
WD-35640-50	Replacement DO probe with 10-ft cable
WD-35640-52	DO probe with 25-ft cable
WD-35640-54	DO probe with 50-ft cable
WD-35640-56	DO probe with 100-ft cable

Solutions

Ensure accurate readings by using Oakton solutions with your DO meter. Zero oxygen solution lets you calibrate for accurate low-end readings. Replacement electrolyte should be used whenever you replace the membrane or membrane cap.

00653-00

Catalog number	Description
WD-00653-00	Zero oxygen calibration solution, 500 mL
WD-35640-71	Replacement electrolyte solution, premixed 500 mL
WD-35640-70	Replacement electrolyte powder, 58.5 g. Mix your own electrolyte solution—makes 400 mL. Has longer shelf life in unmixed form.

Probe Maintenance

Catalog number	Description
Membrane assembly for Acorn® DO 6 meter	
WD-35642-55	Replacement membrane assembly consists of a preassembled membrane and cap. Simply screw replacement membrane assembly onto the probe you already have. Includes 50 mL of electrolyte solution.
Membrane assembly for DO 110, DO 300, and DO 600 meters	
WD-35640-80	Maintenance kit. Includes two complete membrane cap assemblies and 50 mL of fill solution.
WD-35640-72	Replacement membrane assembly consists of a preassembled membrane, membrane lock, O-ring, and cap. Simply screw replacement membrane assembly onto your probe.
WD-35640-79	Membrane installation tool lets you remove and replace membrane in the lab or field
WD-35640-74	Replacement HDPE membranes. Pack of 5
WD-35640-75	Replacement HDPE membranes. Pack of 25

Easy-to-use replacement membrane assembly—simply fill with electrolyte solution and screw onto probe.

DO Meter Kit

for DO 110, DO 300, and DO 600 meters

Bring everything you need for accurate DO measurement with you when you work in the field. Includes 50 mL of electrolyte solution, two replacement membrane caps, three rinse bottles, and hard carrying case with space for your meter and probe. (Meter not included.)

Catalog number	Description
WD-35640-60	DO meter kit (meter not included)

pH/CON 10 Meter

Measure pH, conductivity, and temperature with just one meter and probe!

Toggle between pH/°C and conductivity/°C readings with one button press
- For the convenience of three meters in one!

Includes multi-sensor submersible probe with 10-ft submersible cable
- There's no need to switch probes when you switch measurement modes!

Optional ground water down-well probes available
- 1.7" diameter probe fits into a 2" well head

Dual display shows measured parameter plus °C simultaneously
- Mode annunciators clearly indicate status of readings

Easy push-button pH and conductivity calibration
- Calibrate pH at up to three points and conductivity at up to four points for high accuracy over the entire measuring range

Auto-buffer recognition for pH calibration

Auto ranging for conductivity measurements
- For fast response over a wide range

Automatic temperature compensation (ATC)
- Keeps your measurements accurate even in solutions with varying temperatures

Hold, Ready indicator, Automatic shutoff functions

Meter kit available
- Contains everything you need for calibration and measurement packaged in a hard carrying case

Right: Waterproof pH/CON 10 with multi-sensor probe.

Top: Down-well probes fit easily into 2" well heads.

Bottom: pH/CON 10 kit includes everything you need for calibration and measurement.

ISO9001:2000 CERTIFIED SUPPLIER CE 3 year warranty meter only

Specifications

Mode	pH	Conductivity	Temperature
Range	0.00 to 14.00 pH	0 to 19.99 µS, 0 to 199.9 µS, 0 to 1999 µS, 0 to 19.99 mS	0.0 to 100.0°C
Resolution	0.01 pH	0.01 µS, 0.1 µS, 1 µS, 0.01 mS	0.1°C
Accuracy	±0.01 pH	±1% full scale or ±1 digit	±0.5°C
Calibration	Up to three points (pH 4.01, 7.00, 10.00)	Up to four points (one point per range)	Offset in 0.1°C increments

Temperature compensation: automatic from 0 to 50°C
Operating temp: 0 to 50°C
Conductivity cell constant (K): fixed at 1.0
Temperature coefficient: fixed at 2.00% per °C
Power: four 1.5 V AAA batteries (included), >50 hours continuous use

Dimensions
Meter: 7.5"L x 3.75"W x 2.25"H (19 x 9.5 x 5.7 cm)
Boxed: 9.2"L x 9.2"W x 2.75"H (23 x 23 x 7 cm)
Probe: 6.8"L x 1.3" dia (173 mm L x 33 mm dia) with 10-ft (3-m) cable

Weight
Meter: 1.0 lb (0.45 kg); Boxed: 2.0 lb (0.9 kg)

Ordering Information

Catalog number	Description	Included
WD-35630-03	pH/CON 10 meter only	Meter and batteries
WD-35630-02	pH/CON 10 meter	Meter, pH/conductivity/°C probe 35630-50, and batteries
WD-35630-62	pH/CON 10 meter kit	Meter, pH/conductivity/°C probe 35630-50, "Singles" calibration solution pouches (three each of pH 4.01, 7.00, 10.00; and two each of conductivity 447 µS, 1413 µS, 2764 µS, 15,000 µS), three rinse water pouches, sample bottle, batteries, and hard carrying case

WD-35630-50 Replacement pH/conductivity/°C probe, 10-ft submersible cable

WD-09376-00 Replacement batteries, 1.5 V AAA. Pack of 12

WD-35630-69 Calibration kit includes "Singles" calibration solution pouches (three each of pH 4.01, 7.00, 10.01, rinse water; and two each of conductivity 447 µS, 1413 µS, 2764 µS, 15,000 µS), squeeze bottle, and hard carrying case. (Meter not included)

Down-Well Probes

These pH/conductivity/temperature probes were specially engineered with a slim design so you can use the pH/CON 10 meter to test ground water. Probes measure only 1.7" dia and easily fit into 2" well heads.

WD-35630-52 Down-well probe, pH/conductivity/temperature; 10-ft cable

WD-35630-54 Down-well probe, pH/conductivity/temperature; 25-ft cable

WD-35630-56 Down-well probe, pH/conductivity/temperature; 100-ft cable

pH/CON 300 Meter

A waterproof meter that does it all—measures pH, conductivity, TDS, and temperature!

Waterproof and dustproof with IP67 rating—it FLOATS!

Toggle between pH, conductivity, and TDS readings

Dual display shows measured parameter plus temperature (°C/°F)

▼ Read two parameters at a glance

Advanced setup mode

▼ Recalls previous calibration points, pH electrode slope and offset, conductivity/TDS effective cell constants per range, and more

Easy push-button calibration

▼ Five-point calibration for pH and either conductivity or TDS; temperature offset calibration

pH auto buffer recognition

▼ Fast, easy pH calibration

Auto ranging for conductivity and TDS measurements

▼ Fast response and best resolution over a wide range

Selectable manual or automatic temperature compensation (ATC)

▼ The highest accuracy in any situation

Selectable automatic endpoint

▼ Automatically freezes reading when stable for five seconds

Separate pH and conductivity/TDS probes

▼ Lets you use specialty probes for different applications

Hold function, Ready indicator, Automatic shutoff

Right: pH/CON 300 meter with pH electrode (included).

Far right top: Waterproof, IP67-rated housing floats!

Far right bottom: pH/CON 300 meter kit

ISO 9001:2000 CERTIFIED SUPPLIER CE 3 year warranty meter only

Specifications

Mode	pH	Conductivity	TDS	Temperature
Range	–2.00 to 16.00 pH	0 to 19.99 µS, 0 to 199.9 µS, 0 to 1999 µS, 0 to 19.99 mS, 0 to 199.9 mS	0.00 to 9.99 ppm, 10.0 to 99.9 ppm, 100 to 999 ppm, 1.00 to 9.99 ppt, 10.0 to 99.9 ppt, 100 to 200 ppt	0.0 to 100.0°C; 32.0 to 212.0°F
Resolution	0.01 pH	0.01 µS, 0.1 µS, 1 µS, 0.01 mS, 0.1 mS	0.01, 0.1, 1 ppm, 0.01, 0.1, 1 ppt	0.1°C; 0.1°F
Accuracy	±0.01 pH	±1% full-scale	±1% full-scale	±0.5°C; ±0.5°F
Calibration	Up to five points (1.68, 4.01, 7.00, 10.00, 12.45)	Up to five points (one per range)	Up to five points (one per range)	Offset 0.1° increments

Temperature compensation: automatic or manual (selectable) from 0 to 100°C (32 to 122°F)
Operating temperature: 0 to 50°C (32 to 122°F)
Temperature coefficient: adjustable from 0.0 to 10.0% per °C or °F
Conductivity-to-TDS factor: adjustable from 0.4 to 1
Normalization temperature: adjustable from 15 to 30°C (59 to 86°F)

Power: four 1.5 V AAA batteries (included), >200 hours continuous use
Dimensions
Meter: 7.5"L x 3.5"W x 1.75"H (19 x 9 x 4.5 cm)
Boxed: 9.2"L x 9.2"W x 2.75"H (23 x 23 x 7 cm)
Weight
Meter: 1.0 lb (0.45 kg); Boxed: 2.0 lb (0.9 kg)

Ordering Information

Cat. no.	Description	Included
WD-35631-00	pH/CON 300 meter	Meter, pH electrode 35641-51, combination conductivity/TDS/temperature probe 35608-50, and batteries
WD-35631-60	pH/CON 300 meter kit	Meter, pH electrode 35641-51, combination conductivity/TDS/temperature probe 35608-50, calibration solution pouches (three each of pH 4.01, 7.00, 10.00, and rinse water; and one each of 447 µS, 1413 µS, 2764 µS, 15,000 µS, and rinse water), one rinse bottle, three sample bottles, batteries, and hard carrying case.

Probes

WD-35641-51 Replacement pH electrode, double-junction, sealed, polygel fill, 3-ft cable
WD-35608-50 Replacement combination conductivity/TDS/temperature probe, K = 1.0, 3-ft cable
WD-35618-05 Temperature probe. Provides ATC for pH when used with pH electrodes without ATC.

pH/DO 300 Meter

Measure pH, dissolved oxygen, and temperature with one waterproof, dustproof meter that FLOATS!

Waterproof and dustproof with IP67 rating

Toggle between pH/temperature and DO/temperature

▼ For the convenience of three meters in one!

Backlit display

▼ With adjustable brightness—ideal for viewing readings in dark areas

Automatic temperature compensation (ATC)

Display probe diagnostics

▼ View slope, offset and millivolt values for both pH and DO

°C/°F selectable

pH features:

Push-button pH calibration at five points with automatic buffer recognition

DO features:

No meter warm-up required

▼ Galvanic DO probe design lets you take measurements immediately without the typical 15-minute to 4-hour wait!

Easy-to-service, low-maintenance DO probe

▼ Replaceable membrane cap assembly makes DO probe maintenance hassle-free

Salinity and pressure compensation

▼ Key in values and meter automatically compensates for increased accuracy

Independent 100% and zero adjustment calibrations

▼ High accuracy over the full meter range

Offset adjustment capabilities

▼ Calibrate your meter to a known work standard or titrimetrically determined value

Right: pH/DO 300 meter with pH and DO electrodes.

Far right top: Adjustable backlit display is ideal for taking readings in dark areas.

Far right bottom: Waterproof, IP67-rated housing floats!

ISO 9001:2000 CERTIFIED SUPPLIER CE 3 year warranty meter only

Specifications

Mode	pH	DO in mg/L (ppm)	DO in % saturation	Temperature
Range	–2.00 to 16.00 pH	0.00 to 20.00 mg/L	0.0 to 200.0%	0.0 to 50.0°C; 32.0 to 22.0°F
Resolution	0.01 pH	0.01 mg/L (ppm)	0.1%	0.1°C; 0.1°F
Accuracy	±0.01 pH	±1.5% full-scale	±1.5% full-scale	±0.3°C; ±0.5°F
Calibration	Up to 5 points: pH 1.68; 4.01, 7.00, 10.01, 12.45	One or two points (100% and 0% saturation); plus separate mg/L (ppm) offset		Offset up to ±5°C or °F

Temperature compensation: automatic from 0 to 50°C
Operating temperature: 0 to 50°C (32 to 122°F)
Salinity correction
Range: 0.0 to 50.0 ppt
Resolution: 0.1 ppt
Method: key in manually and automatic
Barometric pressure correction
Range: 500 to 1499 mm Hg, 66.6 to 199.9 kPa
Resolution: 1 mm Hg, 0.1 kPa
Method: key in manually and automatic correction

DO probe type: galvanic
Backlit display: eight levels of brightness
Power: four 1.5 V AAA batteries (included), >100 hours continuous use. Use of backlit display decreases battery life.
Dimensions
Meter: 7.5"L x 3.75"W x 2.25"H (19 x 9.5 x 5.7 cm)
Boxed: 9.2"L x 9.2"W x 2.75"H (23 x 23 x 7 cm)
Weight
Meter: 1.0 lb (0.5 kg); Boxed: 2.0 lb (0.9 kg)

Ordering Information

Cat. no.	Description	Included
WD-35632-02	pH/DO 300 meter only	Meter and batteries
WD-35632-00	pH/DO 300 meter	Meter, pH electrode 35805-23, DO probe 35640-50, with probe 500 mL of electrolyte solution, and batteries
WD-35632-60	pH/DO 300 meter kit	Meter, pH electrode 35805-23, DO probe 35640-50, pH "Singles" pouches, 500 mL of electrolyte solution, rinse bottle, five replacement membranes, membrane replacement tool, batteries, and hard carrying case.

Probes

WD-35805-23 Replacement pH electrode, 10-ft cable
WD-35640-50 Replacement DO probe, 10-ft cable
WD-35641-52 DO probe, 25-ft cable
WD-35641-54 DO probe, 50-ft cable
WD-35641-56 DO probe, 100-ft cable

http://www.novatech-usa.com/Products/Laboratory-Equipment-Supply-Products Tel: (281) 359-8538 Toll Free:(866) 433-6682

PC 650 pH/Conductivity Meter

Two most common electrochemistry measurements in one convenient meter!

Durable waterproof and dustproof design with IP67 rating
- Even with no probes attached and the battery compartment open

Push-button pH calibration at up to six points
- Up to 15 buffer options with auto-buffer recognition of USA, NIST, DIN, and PWB standards

Large backlit graphic display
- Multi-line display with electrode status indicator, calibration data, and more

User-settable "calibration due" alarm
- Out-of-date or unperformed calibrations are now things of the past!

Built-in real-time clock
- Time-and-date stamping meets Good Laboratory Practice (GLP) standards

Store up to 500 data sets
- Infrared IrDA wireless technology makes PC downloading convenient and easy

Set point alarms
- Audible warning when readings are outside set points limit

Research-grade accuracy
- Resolution to 0.001 pH and accuracy to ±0.002 pH

Electrode status indicator
- Calibration data provides electrode diagnostic tool

Password protection
- Security for calibration and setup menus

See pages 25–30 for more pH electrodes; page 46 for conductivity cells.

Left: Software included to interface to your computer.

Right: PC 650 meter

ISO9001:2000 SUPPLIER CERTIFIED CE 3 year warranty

Specifications

Mode		PC 650 meter
Range	pH	–2.000 to 20.000 pH
	Ion	0.001 to 19,900 ppm, molar, or mg/L
	mV	±2000 mV
	Conductivity	0 to 500.0 mS
	TDS	0 to 500 ppt
	Salinity	0 to 80 ppt
	Resistivity	0 to 20.00 MΩ
	Temperature	–10.0 to 110.0°C (14.0 to 230.0°F), selectable
Resolution	pH	0.1/0.01/0.001 pH
	Ion	2 or 3 digits
	mV	0.1 mV
	Conductivity	0.05% full-scale
	Temperature	0.1°C (0.1°F)
Accuracy	pH	±0.002 pH
	Ion	±0.5% full-scale (monovalent); 1% full-scale (divalent)
	mV	±0.2 mV
	Conductivity	1% full-scale
	Temperature	±0.5°C (±0.9°F)
Calibration	pH	Up to 6 buffer values (select from 4 sets): USA: 1.68, 4.01, 7.01, 10.01, 12.45; NIST: 1.68, 4.01, 6.86, 9.18, 12.45; DIN: 1.09, 2.06, 4.65, 6.79, 9.23, 12.75; or custom buffers
	Ion	Up to 6 points
	Conductivity	Manual up to 5 points (1 per range); automatic up to 4 points (84.0 µS/cm, 1413 µS/cm; 12.88 mS/cm, 111.8 mS/cm)
	Temperature	Offset 0.1°C (0.1°F) increments

Memory: up to 500 sets with GLP date and time
Output: infrared, IrDA
Real-time clock: time-and-date stamp on calibration and stored data
Temperature compensation: automatic or manual (selectable), from 0 to 100°C
Ambient operating temperature: 0 to 50°C (32 to 122°F)

Power: four 1.5 V AA batteries (included) or optional universal AC adapter, up to 200 hours continuous use
Dimensions
Meter: 7.25"L x 3.25"W x 2.25"H
Boxed: 9.2"L x 9.2"W x 2.75"H (23 x 23 x 7 cm)
Weight
Meter: 1.0 lb (0.45 kg); Boxed: 2.0 lb (0.9 kg)

Ordering Information

Catalog number	Description	Included
WD-35431-02	PC 650 meter only	Meter and batteries
WD-35431-00	PC 650 meter	Meter, "All-in-One" electrode 35816-77, conductivity cell 35408-57, and batteries
WD-35431-70	PC 650 meter kit	Meter, "All-in-One" electrode 35816-77, conductivity cell 35408-57, calibration standards (60 mL each of pH 4.01, pH 7.00, 1413 µS/cm, 12.88 mS solution), rubber boot, two electrode holders, batteries, and hard carrying case

WD-35816-77 "All-in-One" pH electrode with built-in ATC; double junction, epoxy body, 10-ft cable with BNC connector

WD-35418-05 ATC probe. Use for temperature compensation with any pH electrode without built-in ATC

WD-35408-57 Conductivity cell, 2-electrode, K = 1

WD-35434-85 Multiprobe holder. Holds one each pH, conductivity, DO, and temperature probes

WD-35418-83 Optional adapter, 110/220 VAC

PD 650 pH/ Dissolved Oxygen Meter

Ideal for wastewater and aquaculture!

Durable waterproof and dustproof design with IP67 rating
▼ Even with no probes attached and the battery compartment open

Push-button calibration for all parameters
▼ 6 points each for pH and conductivity; 3 points for DO

Large backlit graphic display
▼ Multi-line display with electrode status indicator, calibration data, and more

User-settable "calibration due" alarm
▼ Out-of-date or unperformed calibrations are now things of the past!

Built-in real-time clock
▼ Time-and-date stamping meets Good Laboratory Practice (GLP) standards

Store up to 500 data sets
▼ Infrared IrDA wireless technology makes PC downloading convenient and easy

Set point alarms
▼ Audible warning when readings are outside set points limit

Research-grade accuracy
▼ Resolution to 0.001 pH and accuracy to ±0.002 pH

Electrode status indicator
▼ Calibration data provides electrode diagnostic tool

Password protection
▼ Security for calibration and setup menus

See pages 25–30 for more pH electrodes; page 52 for DO probes.

Right: PD 650 meter

Left: Optional rubber boot (included with kit) provides added protection

Specifications

ISO 9001:2000 SUPPLIER CERTIFIED CE 3 year warranty

Mode		PD 650 meter
Range	pH	–2.000 to 20.000 pH
	Ion	0.001 to 19,900 ppm, molar, or mg/L
	mV	±2000 mV
	DO	0.00 to 90.00 mg/L (ppm), 0.0 to 600.0%
	Temperature	–10.0 to 110.0°C (14.0 to 230.0°F), selectable
Resolution	pH	0.1/0.01/0.001 pH
	Ion	2 or 3 digits
	mV	0.1 mV
	DO	0.01 mg/L (ppm), 0.1%
	Temperature	0.1°C (0.1°F)
Accuracy	pH	±0.002 pH
	Ion	±0.5% full-scale (monovalent); ±1% full-scale (divalent)
	mV	±0.2 mV
	DO	±0.2 mg/L; ±2.0%
	Temperature	±0.5°C (0.9°F)
Calibration	pH	Up to 6 buffer values (select from 4 sets): USA: 1.68, 4.01, 7.01, 10.01, 12.45; NIST: 1.68, 4.01, 6.86, 9.18, 12.45; DIN: 1.09, 2.06, 4.65, 6.79, 9.23, 12.75; or custom buffers
	Ion	Up to 6 points
	DO	Two points; 100% and 0%
	Temperature	Offset 0.1°C (0.1°F) increments

DO salinity correction
Range: 0.0 to 50.0 ppt;
Resolution: 0.1 ppt

DO pressure correction
Range: 500 to 1499 mm Hg, 66.6 to 199.9 kPa
Resolution: 1 mm Hg, 0.1 kPa

Memory: up to 500 sets with GLP date and time

Output: infrared, IrDA

Real-time clock: time-and-date stamp on calibration and stored data

Temperature compensation: automatic or manual (selectable), from 0 to 100°C

Ambient operating temperature: 0 to 50°C (32 to 122°F)

Power: four 1.5 V AA batteries (included) or optional universal AC adapter, up to 200 hours continuous use

Dimensions
Meter: 7.25"L x 3.25"W x 2.25"H
Boxed: 9.2"L x 9.2"W x 2.75"H (23 x 23 x 7 cm)

Weight
Meter: 1.0 lb (0.45 kg); Boxed: 2.0 lb (0.9 kg)

Ordering Information

Catalog number	Description	Included
WD-35432-02	PD 650 meter only	Meter and batteries
WD-35432-00	PD 650 meter	Meter, "All-in-One" electrode 35816-77, DO probe 35640-50, and batteries
WD-35432-70	PD 650 meter kit	Meter, "All-in-One" electrode 35816-77, DO probe 35640-50, calibration standards (60 mL each of pH 4.01, pH 7.00, electrode storage solution, and rinse water), rubber boot, multiprobe holder, batteries, and hard carrying case

WD-35816-77 "All-in-One" pH electrode with built-in ATC; double junction, epoxy body, 10-ft cable with BNC connector

WD-35418-05 ATC probe. Use for temperature compensation with any pH electrode without built-in ATC

WD-35640-50 DO probe with 10-ft cable

WD-35434-85 Multiprobe holder. Holds one each pH, conductivity, DO, and temperature probes

WD-35418-83 Optional adapter, 110/220 VAC

CD 650 Conductivity/ Dissolved Oxygen Meter

Great for salt water testing!

Right: CD 650 meter

Left: Complete kit available

Durable waterproof and dustproof design with IP67 rating

▼ Even with no probes attached and the battery compartment open

Push-button calibration for all parameters

▼ 6 points for conductivity; 3 points for DO

Large backlit graphic display

▼ Multi-line display with electrode status indicator, calibration data, and more

User-settable "calibration due" alarm

▼ Out-of-date or unperformed calibrations are now things of the past!

Built-in real-time clock

▼ Time-and-date stamping meets Good Laboratory Practice (GLP) standards

Store up to 500 data sets

▼ Infrared IrDA wireless technology makes PC downloading convenient and easy

Set point alarms

▼ Audible warning when readings are outside set points limit

Research-grade accuracy

▼ Resolution to 0.001 pH and accuracy to ±0.002 pH

Electrode status indicator

▼ Calibration data provides electrode diagnostic tool

Password protection

▼ Security for calibration and setup menus

See page 46 for more conductivity cells; page 52 for DO probes.

Specifications

Mode		CD 650 meter
Range	Conductivity	0 to 500.0 mS
	TDS	0 to 500 ppt
	Salinity	0 to 80 ppt
	Resistivity	0 to 20.00 MΩ
	DO	0.00 to 90.00 mg/L (ppm), 0.0 to 600.0%
	Temperature	–10.0 to 110.0°C (14.0 to 230.0°F), selectable
Resolution	Conductivity	0.05% full-scale
	TDS	0.05% full-scale
	DO	0.01 mg/L (ppm), 0.1%
	Temperature	0.1°C (0.1°F)
Accuracy	Conductivity	±1% full-scale
	TDS	±1% full-scale
	DO	±0.2 mg/L; ±2%
	Temperature	±0.5°C (±0.9°F)
Calibration	Conductivity	Manual up to 5 points (1 per range); automatic up to 4 points (84.0 µS/cm, 1413 µS/cm, 12.88 mS/cm, 111.8 mS/cm)
	DO	Two points; 100% and 0%
	Temperature	Offset 0.1°C (0.1°F) increments

TDS factor: 0.40 to 1.00
Cell constant: 0.100 to 10.000
DO salinity correction
Range: 0.0 to 50.0 ppt
Resolution: 0.1 ppt
DO pressure correction
Range: 500 to 1499 mm Hg, 66.6 to 199.9 kPa
Resolution: 1 mm Hg, 0.1 kPa
Memory: up to 500 sets with GLP date and time
Output: infrared, IrDA
Real-time clock: time-and-date stamp on calibration and stored data

Temperature normalization: 15 or 30 °C
Temperature coefficient: linear or pure
Temperature compensation: automatic or manual (selectable), from 0 to 100°C
Ambient operating temperature: 0 to 50°C (32 to 122°F)
Power: four 1.5 V AA batteries (included) or optional universal AC adapter, up to 200 hours continuous use
Dimensions
Meter: 7.25"L x 3.25"W x 2.25"H
Boxed: 9.2"L x 9.2"W x 2.75"H (23 x 23 x 7 cm)
Weight
Meter: 1.0 lb (0.45 kg); Boxed: 2.0 lb (0.9 kg)

Ordering Information

Catalog number	Description	Included
WD-35433-02	CD 650 meter only	Meter and batteries
WD-35433-00	CD 650 meter	Meter, conductivity cell 35408-57, DO probe 35640-50, and batteries
WD-35433-70	CD 650 meter kit	Meter, conductivity cell 35408-57, DO probe 35640-50, calibration standards (60 mL each of pH 4.01, pH 7.00, 1413 µS/cm, and 12.88 mS solution), rubber boot, multiprobe holder, batteries, and hard carrying case

Accessories

WD-35408-57 Conductivity cell, 2-electrode, K = 1
WD-35640-50 DO probe with 10-ft cable
WD-35434-85 Multiprobe holder. Holds one each pH, conductivity, DO, and temperature probes
WD-35418-83 Optional adapter, 110/220 VAC

PCD 650 pH/Conductivity/ Dissolved Oxygen Meter

All three parameters, plus temperature, measured and displayed simultaneously!

Left: PCD 650 meter

Right: Multiprobe holder makes it easy to manage probes simultaneously.

Durable waterproof and dustproof design with IP67 rating
- Even with no probes attached and the battery compartment open

Push-button calibration for all parameters
- 6 points each for pH and conductivity; 3 points for DO

Large back-light graphic display
- Multi-line display with electrode status indicator, calibration data, and more

User-settable "calibration due" alarm
- Out-of-date or unperformed calibrations are now things of the past!

Built-in real-time clock
- Time-and-date stamping meets Good Laboratory Practice (GLP) standards

Store up to 500 data sets
- Infrared IrDA wireless technology makes PC downloading convenient and easy

Set point alarms
- Audible warning when readings are outside set points limit

Research-grade accuracy
- Resolution to 0.001 pH and accuracy to ±0.002 pH

Electrode status indicator
- Calibration data provides electrode diagnostic tool

Password protection
- Security for calibration and setup menus

See pages 25–30 for more pH electrodes; page 46 for conductivity cells; page 52 for DO probes.

Specifications

Mode		PCD 650 meters
Range	pH	–2.000 to 20.000 pH
	Ion	0.001 to 19,900 ppm, molar, or mg/L
	mV	±2000 mV
	Conductivity	0 to 500.0 mS
	TDS	0 to 500 ppt
	Salinity	0 to 80 ppt
	Resistivity	0 to 20.00 MΩ
	DO	0.00 to 20.00 mg/L (ppm), 0.0 to 200.0%
	Temperature	–10.0 to 110.0°C (14.0 to 230.0°F), selectable
Resolution	pH	0.1/0.01/0.001 pH
	Ion	2 or 3 digits
	mV	0.1 mV
	Conductivity	±0.05 % full-scale
	DO	0.01 mg/L (ppm), 0.1%
	Temperature	0.1°C (0.1°F)
Accuracy	pH	±0.002 pH
	Ion	±0.5% full-scale (monovalent); ±1% full scale (divalent)
	mV	±0.2 mV
	Conductivity	±1% full-scale
	DO	±0.2 mg/L; ±2%
	Temperature	±0.5°C (±0.9°F)
Calibration	pH	Up to 6 buffer values (select from 4 sets): USA 1.68, 4.01, 7.01, 10.01, 12.45; NIST: 1.68, 4.01, 6.86, 9.18, 12.45; DIN: 1.09, 2.06, 4.65, 6.79, 9.23, 12.75, or custom buffers
	Ion	Up to 6 points
	Conductivity	Manual up to 5 points (1 per range); automatic up to 4 points (84.0 µS/cm; 1413 µS/cm; 12.88 mS/cm, 111.8 mS/cm)
	DO	Two points; 100% and 0%
	Temperature	Offset 0.1°C (0.1°F) increments

TDS factor: 0.40 to 1.00
Cell constant: 0.100 to 10.000
DO salinity correction
Range: 0.0 to 50.0 ppt
Resolution: 0.1 ppt
DO pressure correction
Range: 500 to 1499 mm Hg, 66.6 to 199.9 kPa
Resolution: 1 mm Hg, 0.1 kPa
Memory: up to 500 sets with GLP date and time
Output: infrared, IrDA
Real-time clock: time-and-date stamp on calibration and stored data

Temperature normalization: 15 or 30 °C
Temperature coefficient: linear or pure
Temperature compensation: automatic or manual (selectable) from 0 to 100°C
Ambient operating temperature: 0 to 50°C (32 to 122°F)
Power: four 1.5 V AA batteries (included) or optional universal AC adapter, up to 200 hours continuous use
Dimensions
Meter: 7.25"L x 3.25"W x 2.25"H
Boxed: 9.2"L x 9.2"W x 2.75"H (23 x 23 x 7 cm)
Weight
Meter: 1.0 lb (0.45 kg); Boxed: 2.0 lb (0.9 kg)

Ordering Information

Catalog number	Description	Included
WD-35434-02	PCD 650 meter only	Meter and batteries
WD-35434-00	PCD 650 meter	Meter, "All-in-One" electrode 35816-77, conductivity cell 35408-57, DO probe 35640-50, and batteries
WD-35434-70	PCD 650 meter kit	Meter, "All-in-One" electrode 35816-77, conductivity cell 35408-57, DO probe 35640-50, calibration standards (60 mL each of pH 4.01, pH 7.00, 1413 µS/cm, and 12.88 mS solution), rubber boot, multiprobe holder, batteries, and hard carrying case

WD-35816-77 "All-in-One" pH electrode with built-in ATC; double junction, epoxy body, 10-ft cable with BNC connector

WD-35418-05 ATC probe. Use for temperature compensation with any pH electrode without built-in ATC

WD-35408-57 Conductivity cell, 2-electrode, K = 1

WD-35640-50 DO probe with 10-ft cable

WD-35434-85 Multiprobe holder. Holds one each pH, conductivity, DO, and temperature probes

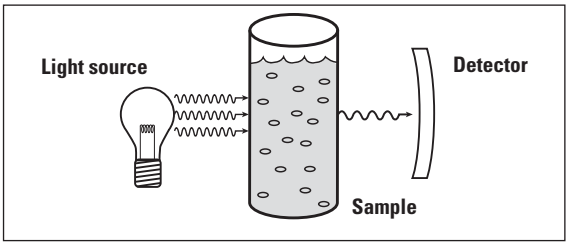
WD-35418-83 Optional adapter, 110/220 VAC

Optical Measurement

Light

When light passes through a liquid, the amount of particles and color in solution will affect the light. Optical techniques measure solution characteristics by using a defined light source, passing the light through a sample, and then measuring the light that passes through the sample. Turbidimetric and colorimetric methods both involve measuring the resulting light intensity. They differ in that the light is attenuated by scattering in turbidimetry and by absorption in colorimetry.

Both determinations may use similar instrumentation. By employing different wavelengths of light and different optical configurations, we can optimize the system for determining the transmitted light of interest for a given analytical method.



Turbidimetry

The cloudiness in a liquid caused by the presence of finely divided, suspended material is called "turbidity." Turbidity meters provide a means of quantifying this "cloudiness" by determining the reduction of light passing through a turbid solution and then comparing the results against a standard. In some applications the clarity of solution is critical. In other applications the appearance of particles indicates bacterial growth. In either case the turbidimeter provides process numerical data on the sample solution.

Colorimetry

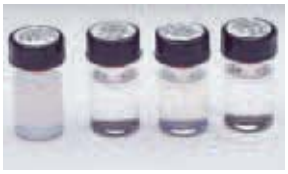
The colorimetric method of chemical analysis involves the measurement of light absorption by colored solutions. While the differences in color development are visible to the human eye, visual determination is subject to user interpretation. Colorimeters eliminate the differences encountered with color comparitors to produce an exact numerical value—with greater resolution that can be achieved through comparitors. Colorimeters use the well-understood principals of wet chemistry to provide precise, repeatable analysis methods. For example, the standard DPD method for determining free and total chlorine is well accepted and approved by the US EPA.

Reagents and Accessories

Reliable reagents and standards ensure accurate measurement for turbidimeters and colorimeters

Turbidity Calibration Set

For use with the T-100 turbidity meter sold on page 61. Stable standards ensure accurate turbidity measurements.



Catalog number	Description	Included
WD-35635-50	Calibration set	One each of primary calibration standard cuvettes filled with 0.02, 20.0, 100, and 800 NTU standards

Secondary Chlorine Standards

Verify performance of your C201, C301 or C401 colorimeters.

Catalog number	Description	Included
WD-35645-70	Secondary standards	Set of four vials

Colorimeter Reagents

The pH reagent features a dropper bottle making it easy to repetitively provide the correct amount of reagent. The convenient foil packs are ideal for use in the field or in the lab. DPD reagents follow US EPA method 330.5 for wastewater, and Standard Method 4500-Cl G for drinking water.

Catalog number	Description	Included
WD-35645-60	pH reagent	Dropper bottle, for 50 tests
WD-35645-62	Cyanuric acid reagent	100 foil packs
WD-35645-64	Free-chlorine reagent DPD	100 foil packs
WD-35645-66	Total-chlorine reagent DPD	100 foil packs
WD-35645-68	Chlorine dioxide reagent	100 foil packs

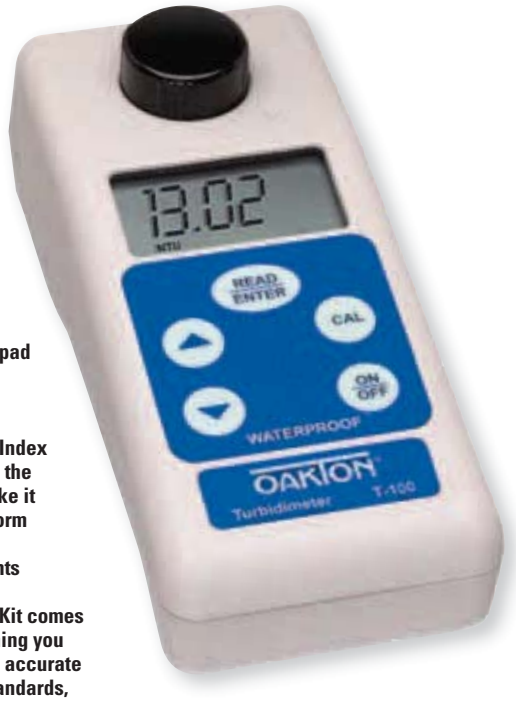
Cuvettes

For use with the turbidity meter on page 61 and all colorimeters on pages 62–63. High-quality borosilicate glass ensures good light transmittance. Indexing mark on each cuvette makes it easy to get repeatable results.

Catalog number	Description	Included
WD-35653-55	Cuvettes	Pack of three

T-100 Turbidity Meter

Completely waterproof—even the sample chamber



Waterproof and dustproof housing

- IP67-rated waterproof housing allows operation in wet conditions ensuring durability, easy cleaning, and maintenance—it even floats!

Auto-ranging from 0 to 1000 NTU

- Meter determines the sample's turbidity level and automatically adjusts to the appropriate measurement range—eliminating any guesswork

Simple, display-prompted push-button calibration

- Pressing the "CAL" button initiates the quick and simple calibration procedure. The instrument automatically prompts the user for the next calibration standard.

Large, easy-to read display

- Large, custom LCD shows readings with units of measure and user-friendly message codes that guide meter operation

Advanced power supply management

- Measures over 1200 samples with a single set of batteries, delivering quick stable results in less than six seconds. Also features auto-off function.

Sturdy carrying case with accessories

- Compact case contains all items necessary for turbidity measurements and protects the meter when not in use. Items include the T-100 meter, four primary calibration standards, three borosilicate sample cuvettes with light shield caps, collection bottle, lint-free cloth, silicone oil, and batteries.

Left top: Keypad with tactile feedback

Left middle: Index markings on the cuvettes make it easy to perform repeatable measurements

Left bottom: Kit comes with everything you need to take accurate readings; standards, sample vials, and a rugged carrying case

Right top: T-100 turbidity meter features a large, 4-digit display

Right bottom: Full-segment LCD is easy to read

ISO 9001:2000 CERTIFIED SUPPLIER CE 2 year warranty

Specifications

Mode	T-100 Turbidity meter
Range	0.1 to 19.99 NTU, 20.0 to 99.9 NTU, 100 to 1000 NTU
Resolution	0.01 NTU, 0.1 NTU, 1 NTU
Measurement method	ISO 7027 (DIN EN 27027) compliant nephelometric method (90°)
Accuracy	±2% of measurement from 0 to 500 NTU, ±3% of measurement from 501 to 1000 NTU
Repeatability	±0.01 NTU or ±1% of measurement, whichever is greater
Response time	<6 seconds for full-step change
Calibration standards	0.02 NTU, 20.0 NTU, 100 NTU, 800 NTU

Standardization: EPA-approved polymer-based primary standards
Light source: infrared-emitting diode (850 nm wavelength)
Light source life: >1,000,000 measurements
Detector: Silicon photovoltaic
Stray light: <0.02 NTU
Display: 4-digit, 14-segment customized LCD
Sample vials: borosilicate glass with screw caps, fill line, and indexing mark. 2"H x 1"dia (51 x 25 mm)
Sample volume: 10 mL (0.33 oz) minimum

Operating temperature range: 0 to 50°C (32 to 122°F)
Operating humidity: 0 to 90% RH, noncondensing at 86°F (30°C) range
Power: four AAA alkaline batteries (included), >1200 measurements
Enclosure: ABS plastic/IP67 rated
Dimensions
Meter: 2.7"W x 6.1"L x 1.8"H (6.8 x 15.5 x 4.6 cm)
Meter with case: 6.3"W x 13.8"L x 4.7"H (16 x 35 x 12 cm)
Weight
Meter: 7 oz (200 g); Meter with case: 2.75 lb (1.25 kg)

Applications

Drinking Water: Use to test for bacteria and other growth.
Food & Beverage Industry: Test water clarity and check for unwanted contamination.
Environmental/Aquaculture: Test waters in streams, lakes, and ponds on site.
General Industrial: Great for checking water in petrochemical, electroplating, and other industrial settings.

Ordering Information

Catalog number	Description	Includes
WD-35635-00	T-100 turbidity meter kit	Meter, four primary calibration standards (0.02, 20.0,100, and 800 NTU), three empty cuvettes with light shield caps, collection bottle, lint-free cloth, silicone oil, batteries, and hard carrying case

WD-35635-50 Replacement calibration set, includes one each of primary calibration standard cuvettes filled with 0.02, 20.0, 100, and 800 NTU standards

WD-35653-55 Replacement cuvettes, borosilicate glass. Pack of three

C100 Series Single-Parameter Colorimeters

Choose from five models

Simple to use
▼ One-time blanking for multiple measurements

Waterproof and dustproof IP67 housing
▼ Even the sample chamber is waterproof

Compact size
▼ Take your Oakton colorimeter anywhere!

Light shield and detachable parts not required
▼ Vial cap prevents stray light from affecting readings

Large, easy-to-read display
▼ Large, custom LCD shows readings with units of measure and user-friendly message codes that guide meter operation

Advanced power-supply management
▼ Measures over 1200 samples with a single set of batteries, delivering quick stable results in less than six seconds. Also features auto-off function.

Sturdy carrying case with accessories
▼ Compact carrying case includes all items necessary for colorimeter measurements and protects the meter when not in use

C101 colorimeter features:
▼ Dropper bottle pH reagent—use just a few drops per test

C102, C103, C104, and C105 colorimeters feature:
▼ Convenient foil pack reagents—use one foil pack per test

Right: C101 pH colorimeter

Above: Colorimeter shown with kit, which includes reagents that come premixed and ready to use.

35645-10

ISO 9001:2000 CERTIFIED SUPPLIER

CE

2 year warranty meter only

Specifications

Mode	C101	C102	C103	C104	C105
Parameter	pH	Cyanuric acid	Chlorine dioxide	Bromine	Ozone
Range	5.9 to 8.2 pH	5 to 90 ppm	0 to 11.4 ppm	0 to 13.5 ppm	0 to 4.1 ppm
Resolution	0.1 pH	1 ppm	0.01/0.1 ppm	0.02/0.2 ppm	0.01/0.1 ppm
Accuracy	±0.1 pH	±1 ppm	±0.02/0.2 ppm	±0.03/0.3 ppm	±0.02/0.2 ppm

Light source: light emitting diode (LED)
Wavelength: 525 nm
Detector: silicon photodiode
Absorbance range: 0 to 2.5 Abs
Photometric precision: ±0.0015 Abs
Calibration points: user-selectable, one point per colorimetric test
Sample volume required: 10 mL (0.33 oz)
Display: 4-digit, 14-segment, customized LCD with annunciators
Operating temperature range: 0 to 50°C (32 to 122°F)
Operating humidity range: 0 to 90% RH, noncondensing at 30°C (86°F)
Power supply: four AAA alkaline batteries (included)
Battery life: >3000 tests
Electromagnetic compliance: (EMC) EN 61326
Dimensions
Meter: 6.1"L x 2.7"W x 1.8"H (15.5 x 6.8 x 4.6 cm)
Meter with case: 13.8" x 6.3" x 4.7" (35 x 16 x 12 cm)
Weight
Meter: 7 oz (200 g); Meter with case: 2.75 lb (1.25 kg)

Ordering Information

Catalog number	Description	Included
WD-35645-10	C101 pH colorimeter kit	Meter, dropper bottle with premixed reagent for 50 tests, sample vials, batteries, and hard carrying case
WD-35645-12	C102 cyanuric acid colorimeter kit	Meter, foil pack reagents for 100 tests, sample vials, batteries, and hard carrying case
WD-35645-13	C103 chlorine dioxide colorimeter kit	Meter, foil pack reagents for 100 tests, sample vials, batteries, and hard carrying case
WD-35645-14	C104 bromine colorimeter kit	Meter, foil pack reagents for 100 tests, sample vials, batteries, and hard carrying case
WD-35645-15	C105 ozone colorimeter kit	Meter, foil pack reagents for 100 tests, sample vials, batteries, and hard carrying case

Applications

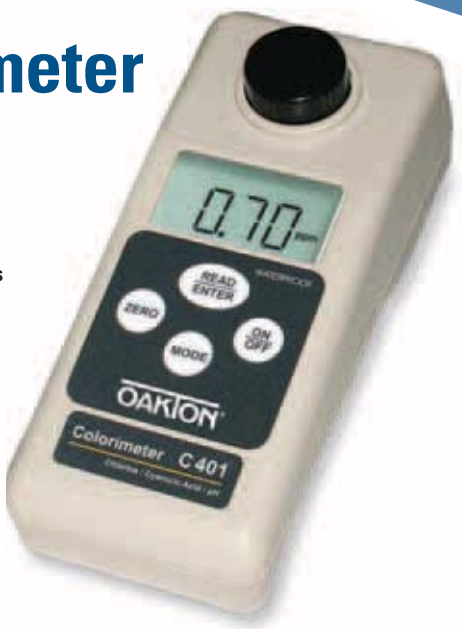
pH Testing: Ideal for applications where pH electrode maintenance is a problem.
Pool and Spa: Great for testing pool water.
Disinfectant Strength: For industrial and water applications.

Replacement Reagents

WD-35645-60 pH reagent includes dropper bottle with reagent for 50 tests
WD-35645-62 Cyanuric acid reagent includes individual foil packs for 100 tests
WD-35645-64 Free chlorine reagent includes individual foil packs for 100 tests
WD-35645-66 Total chlorine reagent includes individual foil packs for 100 tests
WD-35645-68 Chlorine dioxide reagent (glycine) includes individual foil packs for 100 tests

C201, C301 and C401 Multiparameter Colorimeters

Multiparameter measurement for convenient field testing



Right: C401 colorimeter

Below: C301 colorimeter with case and reagents for multiparameter colorimeters

Convenient, foil pack reagents
- Follows US EPA method 330.5 for wastewater, and Standard Method 4500-Cl G for drinking water

Simple to use
- One-time blanking for multiple measurements

Waterproof and dustproof IP67 housing
- Even the sample chamber is waterproof

Compact size
- Take your Oakton colorimeter anywhere!

No detachable parts and no light shield required
- Vial cap prevents stray light from affecting readings

Large, easy-to-read display
- Large, custom LCD displays readings with units of measure and user-friendly message codes that guide meter operation

Advanced power-supply management
- Measures over 1200 samples with a single set of batteries, delivering quick stable results in less than six seconds. Also features auto-off function.

Sturdy carrying case with accessories
- Compact carrying case includes all items necessary for colorimeter measurements and protects the meter when not in use

Specifications

Mode	C201 colorimeter	C301 colorimeter	C401 colorimeter
Chlorine (free and total)			
Range	0 to 1.99 ppm; 2.0 to 6.0 ppm	0 to 1.99 ppm; 2.0 to 6.0 ppm	0 to 1.99 ppm; 2.0 to 6.0 ppm
Resolution	0.01 ppm; 0.1 ppm	0.01 ppm; 0.1 ppm	0.01 ppm; 0.1 ppm
Accuracy	±0.02 ppm, ±0.2 ppm	±0.02 ppm, ±0.2 ppm	±0.02 ppm, ±0.2 ppm
pH			
Range	—	5.9 to 8.2 pH	5.9 to 8.2 pH
Resolution	—	0.1 pH	0.1 pH
Accuracy	—	±0.1 pH	±0.1 pH
Cyanuric acid			
Range	—	—	5 to 90 ppm
Resolution	—	—	1 ppm
Accuracy	—	—	1 ppm

Light source: light emitting diode (LED)
Wavelength: 525 nm
Detector: silicon photodiode
Absorbance range: 0 to 2.5 Abs
Photometric precision: ±0.0015 Abs
Calibration points: user-selectable, one point per colorimetric test
Sample volume required: 10 mL (0.33 oz)
Display: 4-digit, 14-segment, customized LCD with annunciators
Operating temperature range: 0 to 50°C (32 to 122°F)
Operating humidity range: 0 to 90% RH, noncondensing at 30°C (86°F)
Power supply: four AAA alkaline batteries (included)
Battery life: >3000 tests
Electromagnetic compliance: (EMC) EN 61326
Dimensions
Meter: 6.1"L x 2.7"W x 1.8"H (15.5 x 6.8 x 4.6 cm)
Meter with case: 13.8" x 6.3" x 4.7" (35 x 16 x 12 cm)
Weight
Meter: 7 oz (200 g); Meter with case: 2.75 lb (1.25 kg)

Ordering Information

Cat. no.	Description	Includes
WD-35645-20	C201 chlorine colorimeter kit	Meter, foil pack reagents (100 each for free chlorine and total chlorine), sample vials, batteries, and hard carrying case
WD-35645-30	C301 chlorine/pH colorimeter kit	Meter, foil pack reagents (100 each for free chlorine and total chlorine), pH dropper bottle reagent (50 tests), sample vials, batteries, and hard carrying case
WD-35645-40	C401 chlorine/pH/ cyanuric acid colorimeter kit	Meter, foil pack reagents (100 each for free chlorine, total chlorine, and cyanuric acid), pH dropper bottle reagent (50 tests), sample vials, batteries, and hard carrying case

Applications

Water Quality: Use for testing drinking water or wastewater applications.
Environmental/Agricultural: Use for checking water in lakes and streams.
Pool and Spa: Complete water testing for your pool water.
Educational: Ideal for quick, accurate tests in labs and schools.

Replacement Reagents and Secondary Standards

WD-35645-60 pH reagent includes dropper bottle with reagent for 50 tests
WD-35645-62 Cyanuric acid reagent includes individual foil packs for 100 tests
WD-35645-64 Free chlorine reagent includes individual foil packs for 100 tests
WD-35645-66 Total chlorine reagent includes individual foil packs for 100 tests
WD-35645-70 Chlorine secondary standard, includes set of four vials

Additional Products…

Temperature and Humidity Equipment from Oakton Instruments

Portable Measurement

Oakton offers handheld instruments in both the Oakton® and Digi-Sense® brands. Both are easy to use and offer models for thermocouple, thermistor, RTD, and infrared measurement. Digi-Sense offers advanced features and select models rated for intrinsic safety. And you'll find the right probe for your application, whether you need thermocouple, thermistor, or RTD.

Noncontact Measurement

Whether you need a simple pocket-sized thermometer for spot checks or a full-featured model with laser sighting and expanded range, Oakton has the infrared thermometer to meet the job. You'll also find specialized models for the food industry to help you meet HACCP safety requirements.

Wall-Mount Displays and Recorders

Oakton wall-mount barometers and thermohygrometers come in a variety of sizes—some with digital temperature display. Oakton offers a variety of ways to record your temperature and humidity data—from drum-style hygrothermographs, to mulitchannel scanning thermometers, to compact portable dataloggers.

Control

Digi-Sense temperature controllers provide convenient grounded outlets, providing 110 VAC power to heating tapes, heating mantles and other heating/cooling devices. Ideal for pilot process plants, R&D labs, and for OEM requirements.

For more information on these products, request the NEW 2007 *Oakton Temperature and Humidity Catalog* from your Oakton distributor, or visit us at www.4oakton.com. The catalog features 36 pages of products, to meet all of your temperature and humidity measurement needs.

Oakton datalogger
35710-10

Digi-Sense thermometer
60010-40

Digi-Sense Controller
68900-11

Eutech Controllers and Transmitters

Technology Made Easy

Since 1991, Eutech Instruments has developed and manufactured products to meet the most demanding electrochemistry applications. While the applications may present challenges, Eutech believes the instruments should not. Eutech Instruments is driven by the commitment to make technology easy for the customer.

The full-featured models come standard with control relays, alarm relays, and current output; no plug-in cards or user assembly required. All parameters are accessed from the front keypad for worry-free operation, while intuitive operating systems and removable terminal strips make installation and setup easy. Controllers and transmitters are available for pH, ORP, Conductivity, Resistivity, TDS, and Dissolved Oxygen. And you'll find rugged reliable probes to complete your control and measurement systems.

The *Eutech Instruments Product Guide* provides detailed descriptions and complete specifications on these and all Eutech Instruments controllers. Visit us at www.eutechinstamerica.com to request a copy.

pH controller
56715-00

pH transmitter
56717-20

Conductivity controller
19505-00

DO controller
53400-00

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LOOK WHAT'S NEW IN

ELECTROCHEMISTRY!

NEW OAKTON® PRODUCTS FOR 2007

We are pleased to announce a greatly expanded range of product offerings for 2007, including:

- **Waterproof 600 Series Handheld Meters** (see pages 16–17, 44, 51, and 56–59)

  The Oakton 600 Series offers advanced logging and communications capabilities to help you meet all your regulatory requirements. Store up to 500 data points along with time-and-date stamp. Data transfer is simplified with an IrDA wireless communications link and included software. And for the first time Oakton offers pH/mV/ISE, conductivity, and dissolved oxygen functions all in one instrument—the new PCD 650 meter!

- **Redesigned TDSTestrs® and ECTestrs™** (see pages 33–35)

  In addition to a true IP67-rated waterproof housing and a replaceable sensor, the Oakton TDSTestrs and ECTestrs now have multirange capabilities for versatility and convenience—one meter does the work of two or three models.

- **Expanded Colorimeter Product Line** (see pages 62–63)

  Oakton colorimeters now provide simple chlorine dioxide, bromine, and ozone measurement capabilities. Complete kits include foil-pack reagents to simplify measurement.

ORDER FROM:

NOVA-TECH INTERNATIONAL
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Fax: (281) 359-0084 • Toll Free Fax: (866) 433-6684
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